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GEOLOGICAL SOCIETY,

February 4th, 1880.

LIBRARY REGULATIONS.

THE Council, with a view to the convenience of the Fellows generally, and to the better care of Works that are easily injured, have deemed it expedient to make the following regulations, in conformity with Section XIX. Art. 1 of the Bye-Laws.

1. The Books shall only be delivered to a Fellow of the Society or to some one producing a written order from such Fellow; and a receipt shall be given by the person to whom the book is delivered (expressing the name of the Fellow for whom it is received), in a book kept for that purpose.
2. Any Fellow failing to return a book on the application of the Council, or returning books torn or defaced, shall be considered as liable for their value; and if they are separate volumes, for the value of the whole work rendered imperfect.
3. All books allowed to circulate may be retained A FORTNIGHT; after the expiration of that time every book shall be immediately returned, so soon as the Fellow shall receive an intimation from the Librarian that it is wanted; and after the expiration of ONE MONTH from the date of its having been delivered from the Library, every book shall be returned.
4. All books shall be returned on the first Monday in September for a fortnight, during which period the Library shall be closed for cleaning.
5. No Fellow shall have in his possession at one time more than SIX VOLUMES, without the permission of the Council.
6. Any Member failing to comply with the above regulations, after receiving notice from the Librarian, shall be fined half-a-crown for every week that a volume is detained beyond the time allowed; and the privilege of having books from the Library shall cease until the fines are paid and the books are returned.
7. All charges of carriage and delivery of books &c. to and from Fellows shall be defrayed by the Fellow borrowing the same.

EXCEPTIONS.

- I. There are certain Books which cannot be allowed to circulate. A list of these shall be prefixed to the printed Catalogue of the Library; and a notice of such additions to that list as the Council may from time to time feel it necessary to make shall be fixed up in the Library.
- II. No Map, Section, or Drawing can be allowed to circulate without permission in writing granted by the Council, or by the President or one of the Secretaries.
- III. No book or illustration in loose sheets shall be allowed to circulate.
- IV. No Periodical Publication, and no Volume or Part of the Transactions of any Society, shall be allowed to circulate until after the expiration of four months from the date of its having been received at the Society.
- V. All new works shall circulate amongst the Fellows after the expiration of a fortnight from the time of their being received, unless the Council (or, during the recess, the President or one of the Secretaries) shall determine otherwise.

No Book lent to the Society is allowed to circulate without a written order from the Proprietor.

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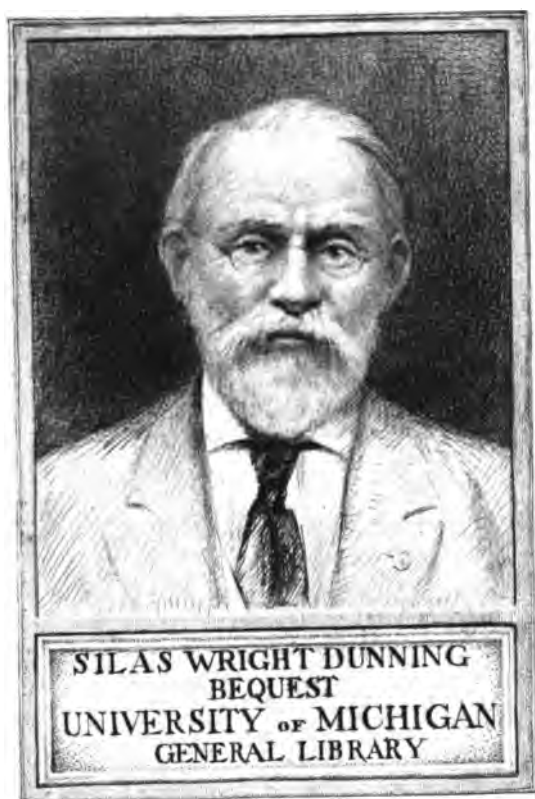
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THE
JOURNAL
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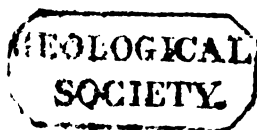
EDITED BY THE SECRETARY.

VOL. II.=(no. 2, 11 only.)
JULY 1844 to JULY 1847.

Quot rami tot arbores.

BOMBAY:
AMERICAN MISSION PRESS.
T. GRAHAM, PRINTER.

1848.



238

*Presented
to
The Geological Society of London.
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10

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ERRATA.

Page.	Line.				
59	4	for	Tasawerf	read	Tasawúf.
—	15	for	Rungha	—	Runjha.
—	19	for	Kuth	—	Kutb.
60	17	for	Darwaza	—	Darweza.
61	28	for	" to "	—	" ts "
62	8	for	बह	—	बह.
65	5	for	birár	—	biráz.
66	34	for	cheighuzah	—	Chelghuzah.
67	19	for	وعد	—	جنيح
—	26	for	S. M.	—	Sig.
84	9	for	Tatkhi	—	Jatkhi.
—	12	for	Thang	—	Jhang.
85	6	for	Bhurplat	—	Bhurphat.
—	14	for	Goths	—	Geths.
86	16	for	Tulaykhá	—	Zulaykhá.
—	19	for	Puornun	—	Punnun.
88	17	for	Suryam	—	Suryani.
78	6	for	I'	—	T.
—	13	for	A	—	Λ.
83	9	for	H A	—	HΛ.
153	22	for	too	—	no.
154	11	for	thy	—	this.

गदिजगता

गत्स्यतायामपि। दासं गत्स्ययदियसस्मर
प्रदिमीढीवरममतरमासिभूगणदतायदृष्टमतिरितीतच
गपूतायकीनृणां। तांविश्यकही॥

।मीहीतममीगुरुमद्यनादलशधिंप्रपचृतय
पेः॥ शश्वद्रूपाभृद। पेविपूजांराष्टवंघंः सु
ममभृतयः ग्कग्नमुग्धाशयाएकीरेवतभूध॥
गतभूरिशारवादयः॥ सपर्यमहीमास्यदंजगतिवै
नायकायरपातरत्युग्राशार्पावग्लगसिद्वाजकुः॥
योचकरंनेमिनः॥ ९॥ नवपननृपतीस्तुदियसुनु
देवः पुनस्तुदियाजनियन्तृदेवः यदानदास्यं
।निभूमिजानिः॥ शृंगारक्तकुलराज्यलक्ष्म्याभृंगारप
।सन्कुटप्रतायमहीमाननृक्षगाभृततीः
पमभजयदिहस॥ सन्धनः सरसिगज
सानुम

नेर्नाशितारीक्षमा॥ पालात्यु
मश्वरशिरकोटीरहीरमभस्व
तउन्नतो नरपतीः कस्याः कुताविश्यभूः
।डलीकः॥ सीतिश्वरईहाश्रीराजराजीश्रीतः॥ १६॥
पूर्वादिः रघुचक्रश्वरकिरणरुधां गेरिराजांगनाना
श्रीयांघ्रिपाताश्वलिनमृदुरजोप्युक्तंशारतेजः॥
।वधसः सुरगधिरतंदुमान्धत्यश्रुग्माद्यलर्करका
विष्यन्कथं॥ २५॥ इतिश्रीराज्यवंशवर्णनं॥
।नंवापीकूपतटाककानमजीनप्रासादशैवालचं॥

is Samvat 1339. Jyeshtha, Shukla 7.

JOURNAL
OF THE
BOMBAY
BRANCH ROYAL ASIATIC SOCIETY.

JANUARY—1842.

ART. I.—*Inscription on a block of black stone to the left of the eastern entrance of Ray Khingār's Mahal at Girnar. Communicated by Capt. LE GRAND JACOB, translated by BALL GANGADHAR SHASTRI, Esq.*

The first verses of this inscription have baffled the endeavours of the translator to understand them : with regard, to the whole he has attempted to give a literal translation ; but he offers to the public the sense as he has understood it. Under such circumstances some will perhaps consider that we have not acted wisely in publishing it. But when it is considered that the Indian history of Guzerat is in much obscurity, and that monumental testimony to history is of the utmost value, we hope that the publication of such fragments will stimulate the zeal of our correspondents to greater exertions. We take this opportunity of mentioning that our museum possesses coins of only four of the Indian Sovereigns of Guzerat. One is new. No doubt some of our friends will furnish us with the means of examining what has already been accomplished in the sister presidency for us ; in order that we also may do our part to facilitate research.

4. Let us praise Ambicá, whose fame has spread through the universe ; and whose son conquers elephants in the form of obstacles, and like Mácandaja plant, grants and fulfills the petitions addressed to him. 5. Let us sing of the famous lord of mountains — and the gods of whom Indra is the chief, will attend the men who are busy

in the practice of pious rites and virtue. 6. That king of mountains—Raivat, incomparable ornament to the kingdom of Sarāushtra, embellished by various places of sanctity, gardens, rivers, forests, delightful places, and numberless other conveniences provided by kings. 7. Do not, O mountain of the gods! indulge vanity; for how many like the sun, and moon, the creators of delight, are not set to revolve by thee? There shines with glory, one mountain, Raivat, by the sight of which human beings laying aside all the revolutions of the heart (distresses or doubts) attain supreme felicity, happiness, and prosperity. 8. On this mountain is established the race of Hari, whose branches extend far and wide, (which) is the depository of the grandeur of the gods; and the pure offspring of which Achyut, Bala and others, being themselves freed from sin, shed pure influence over others. 9. In this race of the younger chief of Yadus, distinguished for formidable bravery, there was a famous family known as Yadavas, overflowing in streams of virtues, in which flourished Mandalika, before whose feet bowed all kings, and who constructed the temple of Nemi with large golden leaves. 10. There was the king Navaghana, the son of Dīpa, who delighted in the assembly of venerable men; pleased his subjects with showers of rain descending from youthful clouds; had eyes like Sarasa (bird) and was amiable by his reputation. 11. Mahipala Deva was the lord of the earth, whose royal son was Dipada—whose slavery was accepted by the law of the gods and the desire—yielding tree of heaven. He was the maker of the edifice of Somanātha in Prabhāsa. 12. There was also Khangāra, lord of the earth, who was a Khangāra (fire) on the tree of the enemy's dominions, adorned the prosperity of his royal house; and served as a stream of water poured by a golden vase over the Mundane plant. 13. The king Shri Jayadeva Sinha, whose eyes were moistened and intoxicated with the stream of the enjoyment of the bright pleasures afforded by earth; the magnitude of whose glory dazzled the enemies; and whose feet were washed by the fluid radiating from the gems on the brilliant crowns of kings who humbled themselves before them. 14. After him flourished Makala Sinha, the lion in destroying the elephants in the form of enemies; whose glory was partaken by the sun; and who shone like a beautiful Hansa on the lotus-like mind of the virtuous. 15. After him was born king Melagadeva, who acted like a black-bee on the lotus-like feet of Bhava (Mahadeva, and was possessed of excellent personal accomplishments. (A foot is here omitted). 16. There was, king Mahipaladeva, wonderful with

the glory shining over his feet which resembled the brow of Udaya, the eastern hill; who shone over other kings, overcome by tributes that had been imposed upon them; as the sun shines over mountains illuminated by his rays spreading in all directions; who destroyed the hostile kings, and resembled the sun; who expels darkness in destroying the gloom of immorality. 17. His son Mandatika shines and creates terror to enemies as a lion to elephants. His fame having plunged in the heavenly rivers, has crossed the circuit of the oceans. 18. There flourished after him Mandalika, under whom kings of kings had taken refuge. (The rest of this verse is inaccurate.)

19. The arm of Mandalika is resplendent — a time past of the elephant like victory, the bridge of the ocean of happiness, the moon emanating from the churning of the ocean of bravery, the eastern halo of the rays of glory, the mitigator of widowhood to the queens of his enemies. 20. O hostile kings! I could give you some good advice. Look, what is before you. This is the dust agitated by the foot steps of the horses of Mandalika, which overspreading the earth cast a gloom over all. O! leave off rashness and accept the service of Mandalika. 21. It is but a display of the wisdom of Brahma that he has created the Divine cow, the gem, and the trees of rough and woody structure; for having seen Mandalika so devoted to liberality, what occasion can there be for producing them?

ART. II.—*Inscriptions from Palitana.*

No. II. *Inscriptions recording the benefactions of the Emperor Akbar to Palitana and to the Jains.*

ओंनमः श्रेयस्वीप्रथमःप्रभुः प्रथिमभागोनेनपुण्यात्मनामस्तुस्वस्तिकरः
सुखाब्धिमकरःश्रीमारुदेवःसवः पयोलासकरःकरैरिवरदिव्योमित्र-
मांभोरुह न्यासैर्यस्तिलकूबभूवभगवाञ्शत्रुंजयेनेकशः १ श्रीसिद्धा-
र्थनरेशवंशसरसीजन्माग्निनीवल्लभः पायाद्वःपरमप्रभावभवनश्रीवर्द्धमान-
प्रभुः उत्पत्तिस्थितिसंहतिप्रकृतिवाग्यज्ञैर्जगत्पावनी खर्वापीवमहाव्रतप्रण-
यभूरासीद्रसोलासिनी २ आसीद्वासववृन्दवदितपदद्वंद्वःपदसंपदां तत्-
पट्टाब्धिचंद्रमागणधरः श्रीमान्सुधर्माभिधः यस्यौदार्ययुताप्रदृष्टसुमनाभ-

१ रदि read रवि, कू read क, व read वः

२ पायाद्वः read पायाब्दः खर्वापीव read ख र्वापी

द्यापिविद्यावती धत्तेसंततिरुन्नतिभगवतोवीरप्रभोगौरिव ३ श्रीसुस्थितः
 सुप्रतिबुधपत्नौ सूरिअभूतांतदनुक्रमेण यादभ्यांगण्यो ६ भूदिहकौटिह चंद्रा
 र्यमभ्यामिवसुप्रकाशः ४ तत्राभूद्वज्रिणांर्वद्यः श्रीवज्रर्षिगणाधिपः मूलश्री
 वज्रशाखाया गंगायाहिमवानिव ५ तत्पट्टांबरदिनमणि रुदितःश्रीव-
 जसेनगुरुरासीत् नागेंद्रचंद्रनिर्वृति विद्याधरसंज्ञिकाश्वतच्छिष्याः ६ स्व-
 स्वनामसमानानि येभ्यश्चत्वारिजज्ञिरे कुलानिकाममतेषु कुलंचांद्रंतुदि-
 द्युते ७ भास्कराद्वतिभिरं हरंतःख्यातिभाजनं भूरयस्तन्न(बहवो)ज-
 क्षिरेजगतांमताः ८ बभूवुःक्रमतःसूत्रश्रीजगच्चंद्रसूरयः यैस्तपाभिरुदलेभे
 बाणासिस्था ६र्क १२८५ वत्सरे ९ क्रमेणास्मिन्गणेहेमविमलाःसूर-
 योभवन् तत्पट्टेसूरयोभूवन्नानंदविमलाभिधाः १० साध्वाचारविधिः
 पथः शिथिलितः सम्यक्श्रियांधामयै रुदध्रेस्तनसिद्धसायकसुधारोर्चिर्निभे
 १५८२ नेहसि जीमूतैरिवयैर्जगत्पुनरिदंतापंहरत्भिर्भृशं सश्रीकंविद-
 धेगवांश्रुवितमैः सोमैरसोलासिभिः ११ पद्माश्रयैरलमलंकृत्यतेस्मतेषां
 प्रीणन्मनांसिजगताकमलोदयेन पट्टःप्रवाहइवनिर्जरनिर्झरिण्याः शुद्धास-
 भिर्विजयदानमुनीशहांसैः १२ सौभाग्यंहरिसर्वगर्वहरणंरूपंचरंभापति
 श्रीजैत्रंशतपत्रमित्रमहसांचौरंप्रतापंपुनः येषांवीक्ष्यसनातनमधुरिपुस्वःस्वा-
 मिघर्माशवो जाताःकाममपित्रपाभरभृतोगोपत्वमाप्तास्त्रयः १३ तत्पट्टः
 -कटःप्रकामकलितोद्योतस्तथासौधवत् सखेहैर्यविराजहीरविजयखेह-
 यैनिमे सौभाग्यंमहसांभरेणमहतामत्यर्थमुलासिनां विभ्राणःसयथाज-
 निष्ठसदृशांकामप्रसादास्पदं १४ देशाद्गुर्जरतोयसूरिवृषभाआकारिताः
 सादरं श्रीमत्साहिअकब्बरेणविषयंमेवातसशंशुभम् प्रा- जपाणयोव-
 त्तमसंसर्वहरंतोगवां स्तोमैःसूत्रितविश्वविश्वकमलोलासैर्नभोर्काद्व १५ चक्रुः

१ पद read पदं

४ अभूता read अभूतां, यादभ्या read याभ्यां, सभ्या ८: should be omitted

६ कपां मिषदं read बिषदं कपो ११ In lacuna supply २

१५ in lacuna supply शब्द

फतेपुरम ——— भौम दृग्युगमकोककुलमाप्तसुखंसृजंतः अष्टैकपावक-
नृपप्रमिते १६३९ स्वगोभिः सोला — बुजकाननये १६ दामेवाखि-
लभूपमूर्द्धसुनिजामाज्ञांसदाधारयज्ञश्रीमान्शाहिअकब्बरोनरवरोदेशेव--
शेषेष्वपि षण्मासाभयदानपुष्टपटहोदूघोषानघध्वंसिनः कामंकारयति-
स्मदृष्टद्वयोयद्वाकुलारंजितः १७ यदुपदेशवशेनमुदंदधन्निखिलमण्ड-
लवासिजनेनिजे मृतधनंचकरंचसुजीजिआभिधमकब्बरभूपतिरयजत्—
१८ यद्वावाकतकाभयाविमलितस्वांतांबुपूरःकृपा पूर्णःशाहिरनिशनी-
तिवनिताक्रोडीकृतात्मात्यजत् शुल्कं त्यक्तुमशक्यमन्यधरणीराज्ञांजन-
प्रीतये नद्वानीडजपुंजपूरपशूंश्याममुचद्वूरिशः १९ यद्वाचानिचयैमु-
धाकृतसुधाधारैरमदैःकृता ल्हादःश्रीमदकब्बरःक्षितिपतिः संतुष्टिपुष्ठा-
शयः त्यक्त्वातत्करमर्थसार्थमतुलंयेषांमनःप्रीतये जैनेभ्यः—प्रददौचतीर्थ-
तिलकंशत्रुंजयोर्वीधरं २० यद्वाग्भिर्मुदितश्चकारकरूणास्फूर्जन्मनाःपौ-
स्तकं भांडागारमपारवाङ्मयमयंवेस्मेववाग्दैवतं यस्सेवगभरेणभावितमतिः
शाहिःपुनःप्रत्युहं पूतात्माबहुमन्यतेभगवतां दर्शनम् २१ यद्वावातरणि-
विषेवकलितोल्लासंमनःपंकजं विभ्रल्लाहिअकब्बरोव्यसमधिपायोजिनी-
चंद्रमाः जज्ञेभ्राद्वजनोचितेश्वसुकृतेः सर्वेषुदेशेष्वपि ख्यातोर्हतभक्तिभावि-
तमतिः श्रीश्रेणिकक्षमापवत् २२ लुंपाकाधिपमेघजीक्रषिमुखाहित्वाकु-
मत्याग्रहं भेजुर्यच्चरणद्वयीमनुदिनंभृंगाइवांभाजिनीं उल्लासंगमितायदी-
यवचनैर्वैराग्यरंगोन्मुखैर्जाताःस्वस्वमतंविहायबहवोलोकास्तपासंनका-
२३ आसीच्चैत्यविधापनादिसुकृतक्षेत्रेषुवित्तव्ययो भूयान्यद्वचनेनगुर्जरध-

१६ in lacuna supply बाण मुञ्चति, अहे read बर्हे, in lacuna supply
समादधुरवां

१७ the lacuna appears erroneous, ध्वंसि read ध्वंस.

१८ lacuna appears superfluous.

१९ lacuna should be omitted.

२० in first lacuna supply चारे

रामुल्येषुदेशेष्वलं याशंगूर्जरमालवादिकमहादेशोद्धवैर्भूरिः सचैःसा-
 द्धर्मशीश्वराविदिधिरेशत्रुजयेयेगिरौ २४ तत्पट्टमब्धिभिवरग्यतमसृजंतः
 स्तोमैर्गवांसकलसंतमसंहरंतः कामोलसत्कुवलयप्रणयाजयंतिस्फूर्जत्कला-
 विजयशेनमुनीन्द्रचंद्राः २५ यत्प्रतापस्यमाहात्म्यं वर्ण्यते किमतः परं अस्वप्ना-
 श्चक्रिरेयेनजीवतोपिहिवादिनः २६ सौभाग्यंविषमायुधात्कमलनीकांता-
 च्चतेजस्विता मैश्वर्यगिरिजापतेःकुमुनीकांतात्कलामालितां माहात्म्यं धर-
 णीधरान्मखभुजांगांभीर्यमंभोनिधे रादायांबुजभूःप्रभूः प्रविदधेयन्मूर्तिमे-
 तन्मयां २७ येचश्रीमदकब्बरेणविनयादाकारिताःसादरं श्रीमत्लाभ-
 पुरंपुरंदरपुरंव्यक्तं सुपूर्वात्करैः भूयोभिर्ब्रतिभिर्बुधैःपरिवृतोवेगादलंचक्रिरे
 सामोदसरसं सरोरुहवनंलीलामरालाइव २८ अहंतंपरमेश्वरत्वकलितं सं-
 स्थाप्यविश्वोत्तमं साक्षात्साहिअकब्बरस्यसदसिस्तोमैर्गवामुद्यतेः यैसंमी-
 लीवलोचनाविदधिरेश्यक्षशूरैश्चिया वादोन्मादभृतोद्विजातिपतयोभट्टा-
 निशाटाइव २९ श्रीमत्साहिअकब्बरस्यसदसिप्रोत्सर्पिभिर्भूरिभिर्वादैर्वा-
 दिचरान्विजयसमदान्तिहैर्द्विपेंद्रानिव सर्वज्ञाशयतुष्टिहेतुरनघोदिश्यु-
 त्तरस्यांस्फुरन् यैःकैलासइवोज्वलोनिजयशः स्तंभोनिचख्नेमहान् ३०
 दत्तसाहसधीरहीरविजयश्रीसूरिराजांपुरा यद्धीशाहिअकब्बरेणधरणी-
 शक्रेणतत्प्रीतये तच्चक्रेखिलमप्यबालमतिनायत्साजमत्साक्षिकंतत्पत्रंफुर-
 माणसंज्ञमनघंसर्वादिशोव्यानशे ३१ किंच गोवृषभकासरकांता कास-
 रायमगृहंनहिनेयाः मोच्यमेवमृतवित्तमशेषं बंदिनोपिहिनचयहणीयाः ३२
 यत्कलासलिलवाहविलासपीतचिन्ततरुणाजनतुष्ट्यै स्वीकृतंस्वयमकब्बर-
 धात्रीस्वाभिनासकलमेतदपीह ३३ चोलीवेगमनंदनेनवसुधाधीशेनस-
 न्मानिता गुर्वीगूर्जरमेदिनीमनुदिनंस्वर्लोकविब्बोकिनीम् सदृत्तामहसांभरे-
 णसुभगागाढंगुणोल्लासितो येहाराइवकंठमंबुजदृशांकुर्वतिशोभास्पदं ३४

२४ for भूरि : read मूरिभिः

२७ for मखसुनी read कमालिनी, प्रभूः read. प्रभुः

२८ संमीलीव read समीलित.

No. III. Inscription commemorating the benefactions of the goldsmith Tejpal to the temple of Palitana.

इतश्च आभूरान्वयपद्मपद्मसवयाउकेसवंशेशभव^१ श्रेष्ठीश्रीशिवराजइत्य
भिधयासौवर्णिकःपुण्यधी^२ तत्पुत्रोजनिसीधरश्चतनयस्तस्याभवत्पर्वतः का-
लाब्धोजनितत्सुतश्चतनुजस्तस्यापिवाधभिधः ३५ तस्याभूद्वलिआभिधश्च
तनुजःख्यातोरजाइ^३भव तस्याभूच्चसुहातिनीतिगृहिणीपद्मेवपद्मापते^४णीसु
रराजयोरिवजयःपुत्रस्तयोश्चाभवत्तेजःपालइतिप्रहृष्टसुमनाःपित्रोर्मनः प्रीति
कृत् ३६ कामस्येवरतिर्हरिवरमागौरीवगौरीपतेरासीत्तेजलदेइतिप्रियत-
मातस्य^५कृतिः भोगश्रीसुभगौगुरौप्रणयिनौशश्वत्सुपर्वादरौपौलीमीत्रिद
शेश्वराधिवसुखंतौदंपतीभेजतुः ३७ बेराग्यवारिनिधिपूर्णनिसाकराणां
तेषांबहीरविजयव्रतिसिंधुराणां सो^६भाग्यपरभागविभासुराणां तेषांपुन-
र्विजयसेनमुनीश्वराणां ३८ वाग्भि^७मुधाकृतसुधाभिरुदविचेत्ताः श्राद्धः
सशोभनमनाभजतिस्मभावं श्रीसंघभक्ति^८नदानजिनेंद्रचैत्यो द्वारादि-
कर्मसुभृशंसुकृतिप्रियेषु ३९ विशेषकं ॥ ग्रहैःप्रशस्तेहिंसुपाश्वर्भर्तु रनं-
तर्भर्तुश्चक्षुभांप्रतिष्ठां सोचीकरत्षड्युगनृप^९ १६४६ वर्षे हर्षेणसौवर्णि-
कतेजपालः ४० आदावीर्षभिरत्रतीर्थतिलकेशत्रुंजये^{१०}एचीकर 'सैःयं
शैत्यकरंदृशोर्मणिगणस्वर्णादिभिर्भासुरं अत्रान्येपिभुजार्जिताफलवतीमु-
च्चैःसृजंतःश्रियं प्रासादंतदनुक्रमेणवद^{११}श्वाकारयन्भूभुजः ४२ तीर्थे-
वसाधुकरमाभिधोधनीसिद्धिसिद्धितिथि १५८८ संख्ये ॥ चैत्यमचीक-
रदुक्ते रानंदविमलमुनीराजां ४३ तंवीक्ष्यजीर्गभगवद्विहारंसतेजपालः
स्वहृदीतिदध्यौ भावि^{१२}कदासौ^{१३}वसरोवरीयान् यत्रा^{१४}त्रचैत्यंभवितानवीनं
४४ अन्येद्युःस्वगुरु^{१५}पदेशशरदाकामंवलक्षीकृता^{१६} स्वातंभाःसवणिग्वरः

१ भवः	९ धीः	११ ईभवः	४ ईद्राणी
५ प्रसन्नाकृतिः	६ सौभाग्यरूप	७ मुंभा	८ धन
८ भूप	१० चैत्यं	११ भावी	१२ मरु
१३ स्वातंभाः			

पुरतरे श्रीस्तंभतीर्थे वसन् तीर्थश्रीमतितुंगतीर्थतिलकेशत्रुजये हृद्दे द्वारं क-
 तुमना अजायत तमांसाफल्यमिच्छञ्छ्रियः ४५ अत्र स्यात्सुकृतं कृतं तनुमतां
 श्रेयः श्रियां कारणं मत्वेवं निजपूर्वजव्रजमहानंदप्रमोदाप्तये तीर्थश्रीविमला-
 चलेति विमले मौलेर्हेतोर्मादिरे जीर्णोद्धारमकारयत्सुकृतीकंतीतनुजन्मवत्
 ४६ शृंगेण भिन्नगगनांगणमेतदुच्चैश्चैत्यं कास्तिशिखरसिंहे मकुंभं ह-
 स्तेषु ५२ हस्तमितमुच्चमुपैति नाक लक्ष्मीं विजेतुमिव काममखर्वगर्व
 ४७ यत्रार्हदो कसिजितामरकुम्भकुंभाः कुंभाविभांतिशरवेदकरेन्दु-
 १२४५ संख्याः किंसेवितुं प्रभमगुः प्रचुरप्रताप पूरैजितादिनकराः कृतनै-
 करूपाः ४८ उन्मीलितप्रदभूमिरुहानशेषान् विश्वेषु विघ्नकरिणो युगपन्नि-
 हंतुं सज्जास्मदित्यमभिधातुमिवेदुनेत्रा २९ सिंहाविभांन्युगताजितधाम्नि-
 यत्र ४९ यागिन्यो यत्र शोभते चतस्रो जितवेश्मनी निषेवितुमवाक्रां-
 ताः प्रतापो रागतादिशः ५० राजते च दिशां पाला यत्रार्हदाल-
 ये मूर्त्तिमंतः किं मायाता धर्मात्संयमिनाममी ५१ द्वासप्ततिः श्रियम-
 यंतिजिनेन्द्रचंद्रविवानिदेवकुलिकासुवितावतीषु ११ द्वासप्ततेः श्रितजिना-
 लिकलालतानां किंकुड्मलाभ्यरिमलैर्भुवनं भरतः ५२ राजते-
 यत्र चत्वारोगवाक्षाजिनवेश्मनि विरंचेरिवक्त्राणि विश्वकारणहेतवे
 ५३ यत्र चैत्ये विराजते चत्वारश्चतपोधनाः अमी धर्माः किमायाताः प्र-
 भुपास्त्येव पुर्भृतः ५४ पंचालिकाः श्रियमयंतिजिनेन्द्रधाम्नि १२ द्वाविंश-
 दिंद्रमणीभरजैत्ररूपाः ज्ञातापतीनिहजिने किमुलक्षणक्षमा राजांप्रिया-
 निजनिजेशनिभालनोक्ताः ५५ द्वाविंशदुत्तमतमानि चतोरणानि रा-
 जंतियत्रजिनधाम्निमनोहराणि किंतीर्थकृद्दशनलक्ष्मीमृगेक्षणानां मं-

१ Doubtful.

४ येजिन्ये

७ सामता

१० धर्माः

११ पांचालिकाः

२ स्थित

५ जिनवेश्मनि

८ पालाः शुभे

११ Doubtful.

१४ धाम्नि

१५ लक्ष्मि

३ मेचाः सिंहाविभांत्युपमता

६ सिंहा

८ तः किमायाता

११ लाः परिसंभे

१५ रूपाः

दोलनानिसरलानिसु'शनानि ५६ गजाश्वतुर्विंशतिर६द्रितुंगा वि-
भांतिश'घ्राजिनधाम्नियत्र दवाश्वतुर्विंशतिरीशभक्त्यैकिमागता : कुंजर-
रूपभाजः ५७ स्तंभाश्वतुःसप्ततिरद्रिरा'जातुंगाविभांतीहजिनेद्रचैत्यै
दिशाम६धीशैः सहसर्वइन्द्रा'किमासभक्त्यैसमुपेयिवांसः ५८ रम्येनंदप-
योधिभूपति १६४९ मितेवर्षेसुखे'नकृत् साहाय्याद्दृजसुठकुरस्य-
सुकृतारामैकपाथोमुचः प्रासादंबलिआसुतेनसुधियाशत्रुंजयेकारितं दृष्ट्वा
६ष्टापदतीर्थचैत्यतुलितकेषानचित्तेरतिः ५९ चैत्यंचतुर्णामिवधर्ममेदिनी
भुजांगृहंप्रीणितविश्वविष्टपम् शत्रुंजयोर्वीभृतिनंदिवर्धना ६भिधंसदायछ-
तुवांछितानिवः ६० भूयः प्रभाभरविनिर्मितनेत्रशैत्य चैत्ये ६त्रभीरर६भ-
वद्विभवव्ययोयः शालावदंतिमनुजाइतितेजपालं कल्पद्रुम'त्ययमनेनध-
नव्ययेन ६१ शत्रुंजयेगगनबाणकला १६५० मितेब्दे यात्रांचका-
रसुकृतायसतेजपालः चैत्यस्यतस्यसुदिनेगुरुभिः प्रतिष्ठा चक्रवहीरवि-
जया ६भिधसूरिसिंहैः ६२ मार्तंडमंडलमिवांबुरुहीसमूहः पीयूषरश्मि-
वनीरनिधेः प्रवाहः केकिव्रजः सलिलवाहमिवातितुंगंचैत्यं निरीक्ष्यमुदमे-
तिजनः समस्तः ६३ चैत्यंचारुचतुर्मुखंकृतसुखं श्रीरामजीकारितं प्रो-
त्तुंगंजसुठक्वुरेणविहितंचैत्यंद्वितीयं शुभं रम्यंकु'अरजीविनिर्मितम् ६भू चै-
त्यंतृतीयंपुन मूलश्रेष्ठिकृतंनिकामसुभगंचैत्यंचतुर्थंतथा ६४ एभिर्विश्व-
विसारिभिर्दुतिभरैर ६खर्यंसमूत्रितोद्योतोदिद्वखिल्लासुनिर्जरपतिः स्वर्लो-
कपालैरिव श्रीशत्रुंजयशैलमौलिमुकुटंचैत्यैश्वतुर्भिर्युतः प्रासादो' ६गि-
मनोविनोदकमलाचैत्यंचिरंनंदतु ६५ वस्ताभिधस्यवरसूत्रधरस्यशिल्पं
चैत्यंचिरादिदमुदस्यनिरीक्षणीयं शिष्यत्वमिच्छतिकलाकलितोपिविश्व
कमास्यशिल्पपटलेभवितुंप्रसिद्धः ६६ सदाचराब्धीनांकमलविजया-

६ दंष्ट्रं
१९ रंज्ञाः
१ कुमात्वा
४ प्रासादोदि

१० Doubtful
१९ सुषामंदकृत
१ कुब्जरजी

११ राजानुंजा
१ समूचेत्ये

ज्ञानसुधियां पदद्वंद्वंभोजभ्रमरसदृशोहेमविजयः अलंकारैराढ्यास्त्रिय-
मिवशुभायांविहितवान् प्रशस्तिःसस्तैषाजगतिचिरकालंविजयतां ६७ इ-
त्तिसौवर्णिकसाहस्रीतजपालोद्धृतविमलाचलमंडनश्रीभादिशमूल प्रासाद-
प्रशस्तिःश्रेयःबुधसहजसागराणां विनेयजयसागरोल्लिखं वर्णै शिल्पिभ्या-
मुत्कीर्णामाधवनानाभिधनानाम्यर्त्त ॥ श्री ॥ ६८ ॥ छ् राम् ।

ART. III. — *An Essay on the Language of the Aboriginal Hindūs.*

By THE REV. DR. STEVENSON.

After carrying the study of the languages of continental India and the island of Ceylon to some extent, the student is apt to imagine that they are all mere corruptions of the Sanscrit, the language of the literature and religion of the Brahmans. A more critical examination of the subject, however, at last convinces him, that there are many words in common use, especially in the languages of Southern India, that cannot, after making every allowance for corruption, be derived from the Braminical tongue. He also finds that a great many of the words derived from the Sanscrit are used only by Brahmans, while others of the same meaning, but of a different origin, are constantly substituted by the common people. He farther observes that there are several Sanscrit letters which are never introduced into the spoken languages of India, or which if introduced, none but Brahmans can pronounce. Thus र (ri) is by the common people always converted into रि (ri), or रु (ru), and the next three letters never enter into any of the spoken dialects; श (sh) and क्श (ksh) are changed to क (k), ख (kh), or स (s). Innumerable combinations of letters, such as श्र (sh), क्र (kr), र्म (rm), &c. are uniformly deprived of one of their members, or have a vowel interposed between the two consonants; and in the south of India several letters are used that are not found in Sanscrit. It is true that in all countries the pronunciation of the vulgar differs from that of the educated, but this difference usually appears least in the most characteristic sounds of a language. Thus in English the two sounds of *th* in *that* and in *thin*, both unutterable to a German or a Frenchman, are yet enunciated as correctly by every peasant, as by any lord; while no instruction can teach the uneducated adult, the polite pronunciation of the *m* in *aide de camp*.

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or of the *n* and *oi* in *sansfreide*; words which belong only to the language of the higher classes in England, while on the other side of the channel they may be heard flowing with all their peculiar grace from the mouth of every peasant.

The existence of all of these circumstances, suggests the enquiry whether the words entirely foreign to the Sanscrit are mere vulgar terms, used at random in every particular province, without any connection with those used in other provinces, or whether they are the same or nearly so, in all the different spoken languages of India. A connection has indeed by many been shown to exist among the northern languages, and their relation to each other traced; and the same has been done in reference to the languages of the South. I am not aware however that the boundary line has been crossed, and the relation between the northern and southern family traced any farther than to shew that the Sanscrit enters largely into them all. That part of these languages, which is not derived from the Braminical tongue, has never been traced through the spoken languages of India. Yet if we can trace a language wholly different from the Sanscrit in all the modern dialects, after separating also the easily recognized importations by the Mahomedan conquerors of India, it will seem to follow, that the whole region previous to the arrival of the Brahmans was peopled by the members of one great family of a different origin. That family may have been divided into different branches; one of these may have preceded the other in their migrations, yet oneness of language would seem to point to oneness of origin, especially since both history and tradition are silent as to any wide spread influence exercised in ancient times, by any foreign tribe except the Braminical. I call the Brahmans a foreign tribe in accordance with indications derivable from the cast of their features, and the colour of their skin, as well as from their possessing a language which none of the natives of India but themselves can even so much as pronounce; and the constant current of their own traditions, making them foreign to the whole of India, except perhaps a small district to the north-west upon the Ganges. Even in the time of Manu, the whole country to the south of the Vindhya mountains and Nerbudda river, was inhabited by men who did not submit themselves to the Braminical institutions, and among whom he advises that no Brahman should go to reside.

Our enquiry then is in reference to the language spoken by these aboriginal Hindús, before they were subjected to Braminical influence.

Of this we mean to collect a few fragments yet to be found in all, or nearly all the present spoken languages of India. It may be necessary first of all, however, to state more explicitly that these languages, like those of modern Europe, may be divided into two great families, a northern, and a southern. The members of the northern family, while differing essentially from the Sanscrit, and agreeing with the southern in general grammatical structure, borrow most of their vocables from the Braminical tongue. The Hindí, which probably contains the most, is estimated by Mr. Colebrooke to have nine-tenths of its vocables of Sanscrit origin, and the Maráthi which contains the fewest has at least four-fifths of its words derived from the same source. In the southern family again, Sanscrit words are of rarer occurrence and enter less into the common language of the people, except in the Singhalese, which from the influence of the Páli, chiefly derived from the Sanscrit, and the language of the Budhistical literature, has nearly as many words originally derived from the Sanscrit as the Hindí itself.

The northern family may be considered as embracing the Hindí, with its dialects of Panjábí, Brij Bháshá, and Hindostání; the Bengálí; the Gujaráthí; the Márwáí; and the Maráthí. The Uriyá may be considered as a connecting link between the two families, though inclining perhaps somewhat to the Northern. The Southern family, is generally said to consist of the Telinga or Telugu, the Canarese or Carnática, the Tamil, and the Malayálim. There are however besides these, two other languages spoken in small districts on the Malabar Coast, the Kokaní inclining to the northern, and the Tulu belonging decidedly to the southern family. The Singhalese also may be considered as a branch of the latter family, as well as the language of the Maldive islands.

The allied languages of Cutch, Scinde, and Affghánistan are plainly derived from the same original as the languages of India, though now abounding more or less with Persian vocables. The Nepalese, an Indian language, connects the languages of India with that of Tibet; and the Assamese another, forms the link between them and the language of Burmah. The numerous rude tribes inhabiting the hills and forests of India, have each a language of their own, of some of which small lists of words only have hitherto been published. The languages of the Malayan peninsula, and of Java, and the adjacent isles, though containing many words of Indian origin, are probably indebted for them to Indian traders, conquerors, legislators, and di-

vines, to whom the inhabitants owed, in ancient times, their civilization and literature. I have not the materials to enable me to embrace the whole of this extensive range of languages, and must confine myself chiefly to the Hindí, Bengálí, Gujaráthí, Maráthí, Telugu, Carnática, Támil, and Singhalese. Yet if it be considered that these are the languages of at least nine-tenths of the inhabitants of India, and will carry us in one unbroken line from Dondra head to the Himalayan mountains, and again in another line from the Brahmaputra river to the banks of the Indus; we cannot err much in applying conclusions drawn from them to the other languages of the plains, confessedly so similar in their vocabulary and construction to one or other of them. Larger and more numerous catalogues of the words used by the hill tribes would require to be compared with one another; and with the languages of the inhabitants of the plains, before any certain conclusions can be drawn from them. In those already published there is rather a striking resemblance to the languages of the Indian peninsula. Should I be favoured with catalogues of the languages of more of these tribes, I may probably again resume this subject in reference to them; and I am sure the conductors of our journal would welcome such contributions made by any, who have opportunities of furnishing them for publication.

I. There is then a great resemblance in the grammatical structure of the abovementioned eight languages.

1. In the inflection of nouns.

All are deficient in the number of cases required to mark the different relations of nouns, and supply the deficiency by particles, placed after the root or some of the cases.

In the letters that characterize the principal cases, there are several striking analogies running through most of the languages. Thus the letter *n* is a very general characteristic of the Genitive Singular. It enters into the Gujaráthí common genitive *નો ની નું* (*no ni nun*); the ancient Marathi genitive *चेनी* (*cheni*), now usually contracted into *चे* (*che*); and into the Tamil *இன்* (*in*); in all of which it runs through all the declensions. It is found also in the *नि* (*ni*); of the first of the three declensions in Telugu, and in the *अन* and *इना* (*ana* and *ina*) of the first and fourth of the four Canarese declensions. It is singular that in the Turkish the termination of the genitive *ung* should afford so near a parallel to the above; and that we should have the remains of such a genitive singular in *mine*, and *thine*; and the Germans in *mein*, *dein*, and *sein*. Again the letter *k* enters extensively

in these languages into the Dative Singular ; Thus we have in Hindi को (*ko*), in Bengali কে (*ke*), in Telugu generally కు (*ku*), in the Canarese second declension కే (*kke*), and in the Tamil కు (*ku*). The Hindi Genitive in का को के (*ká kī ke*) may be a contraction of the Telugu యొక్క (*yokka*); and the common change of क to न gives us nearly the Singhalese గై (*gai*), and the Tibetan ग्य or गे (*gye* or *ge*). The Marathi ला (*lá*) of the Dative is the same as the Afghan لا (*lá*) used for pronouns, and nearly the same as the Tibetan ल (*la*). The simple lengthening of the short अ of the Nominative into आ in Marathi, for the Dative and Accusative as is common in the ancient dialect, is the same process as that frequently employed in the Singhalese for the formation of the Accusative. The common Dative in the Singhalese is ටා (*ta*); and in Pashtu ت (*ta*); and in the old Marathi dialect, the Accusative frequently, and sometimes the Dative is formed by the termination ते (*te*). In none of these instances is there an agreement with the Sanscrit, and coincidences so numerous and so minute, could scarcely result from mere accident, and therefore are probably the remains of the language spoken by the Hindus before they came in contact with the Brahmans ; in which the affixed particles marking the relation of nouns were probably like our prefixed words *for*, *with*, *concerning*, all significant when separated, and the varieties now discoverable have been produced by the dropping in one language one syllable, and in another, another. That this is not mere theory may be seen in the old form of the Maráthí Dative, लागी (*lági*) derived from the verb लागणे (*lagane*), to come in contact with ; where we have their present Dative, and that of the Pashtu pronouns, and the Dative in the Tibetan language in the first syllable ला (*lá*); and in the second syllable the common Dative in Canarese, by simply changing the vowel into that with which it is most often interchanged, giving us गे (*ge*); and by changing the consonant into its sharp we have the कि (*ki*) of the Telugu, and the chain of the analogy with the other languages mentioned above, established. That this word लागी (*lági*) itself may be derived from the Sanscrit, is no objection whatever ; for it may have been derived from a root common to many languages, and be just as independent of the Braminical tongue as our own word *lug*.

2. In turning from the noun to the verb we observe that the second person singular Imperative is the root, or shortest form to which the verb can be reduced ; the letters of which in regular verbs appear

in all the Moods, Tenses, and Persons. This is so common in other languages that I should hardly have noticed it, had it not been that it takes place after every allowance, in only about one half the conjugations and half the tenses in Sanscrit.

3. The Present Tense in common use in them all, contains the Present Participle, as a constituent part of it. In the Singhalese, Telugu, Carnatica, and Tamil, that is in the southern family, the Present Participle Active receives the signs of the persons as affixes, to form the Present Indicative. In the northern family generally I believe, as in the Hindi, and with a Negative in Gujarathi, the Present Tense is formed by the participle, and the Substantive Verb as in our form *I am reading*. In the Marathi, both forms are used according to the sense.

4. All of these languages, unless perhaps the Singhalese, agree in using an aorist, which denotes, Past, Present, or Future time, as the sense requires. In many of them, however, it is mainly confined to the ancient dialect, and only used in popular speech, as explained under the next head.

5. To the abovementioned aorist a Negative Particle may be affixed, so as to form what is called the Negative Verb. In the northern family the न्ना or न (na or na), which expresses the negation is affixed to the signs of the persons, and never disappears. In the southern family on the contrary, the sign of the negation intervenes between them and the root of the verb, so that the अ (a) which was probably the original sign of negation, is in some of them, as the Canarese, entirely lost, and this negative verb becomes shorter than the affirmative. In the Japanese and Turkish languages, which follow the same plan the n or z in the former, and the m in the latter never disappear; and even in the Tamil, the lengthening of the vowel before the signs of the persons, gives notice of the presence of the Negative Particle. To the observations under this head the Singhalese seems an exception, having no affix which it adds to the verb to deny the existence of the act.

6. In all of these languages the Past Tense of the Verb is marked by affixes and not prefixes as in the Sanscrit. In the Canarese the common sign is द् (d), agreeing with the Turkish; and in one dialect of Gujarathi it is च (dh). In the Tamil it is त् or द् (t or d), as in our own tongue. In the Telugu it is always त् (t) agreeing in this with the German, though the German has also the prefixed reduplication, which allies it to the Sanscrit and Greek. There is one word

common in the ancient dialect in the Maráthi, which seems to furnish the key to all the discrepancies observable in the formation of the Past Tense in the modern Indian languages. It is the *दिहले* (*didhale*), the past tense of the verb *दे* (*de*) give. In the Southern Gujaráthi the *ध* (*dh*), has been retained, and the *ल* (*l*), dropped. In the Canarese and other southern languages which abhor aspirates, it has been reduced to *द* (*d*), or changed to *त* (*t*). The common Maráthi and Bengálí have dropped the *ध* (*dh*), and retained the *ल* (*l*). In the Northern Gujaráthi and Hindí, the liquid *ल* (*l*), has been changed into its fellow liquid *य* (*y*), while in Urdu even this is usually dropped. Although only this one word in Maráthi retains the *ध* (*dh*), pure before *ल* (*l*), it exists in the corrupted form of *त* (*t*) in several words of very common occurrence in the language.

7. Almost all of these languages agree in forming an Infinitive of very popular use, by adding the same letters that are used for the formation of the Dative Singular of nouns. The Tamil makes the slight change from *कु* (*ku*), to *का* (*ka*). Such a form of Infinitive I need not say is quite unknown in Sanscrit.

8. All of the verbs in these languages are naturally destitute of a Passive voice. Awkward attempts by those who translate from the Sanscrit and European languages, have been made to supply its place by a Past Participle, and the verb *to go* in the Northern, and the verb *to fall* in the Southern family, but such forms never enter into popular speech, except in the neighbourhood of European stations. The natives have various ingenious ways of making up for the want of the Passive and say in their peculiar languages on the Ganges, in Maharástra, and in the Carnatic, *I have eaten blows*, instead of *I have been beat*. When other expedients fail them, instead of saying *it is reported*, they say *people report it*; using the Third Person Plural Active instead of the Passive.

9. In all of these languages, there is a great deficiency of verbs which is supplied in the popular speech by using nouns with the verbs, do, give, take, &c.

10. In the construction of these languages, either the Accusative, as in the Tamil, is occasionally used for the Nominative, or more generally as in most of the other languages the Nominative, especially of nouns denoting things without life, is used for the Accusative, or the Nominative and Accusative are the same; thus all, more or less, frequently disregard the distinction between the two cases.

Such are the most important particulars that my partial acquaint-

nce with several of these languages has permitted me to observe, as running through the whole, or nearly the whole of them, but they are surely sufficient to establish among them a strong family connection; and when it is remembered that for none of these characteristics are they indebted to the Sanscrit, it seems impossible to account for such a similarity of grammatical structure in languages spoken by people having so little intercourse with one another, as for ages the Hindu inhabitants of the north and south of India have had, unless we suppose it to arise from their all being originally of one family, and possessing one primitive language, the grammatical structure of which may be in some measure gathered from these their points of agreement. That Braminical influence has modified the grammatical structure, and introduced into the northern languages some affixes for those in former use, especially in the inflexion of nouns need not be denied; but the general structure of all has certainly remained unaffected, as there is about as much analogy in the construction of a Hindí or Maráthí sentence, to the Syntax of Sanscrit, as there is in that of a French or English sentence, to that of the Latin. Indeed upon the whole there seems more agreement in the construction with the Turkish than with the Sanscrit. And perhaps the original language of India may be the connecting link between what the Germans have termed the Indo-Germanic family, and the Turkish family of languages.

II. Having considered some of the points of agreement that the spoken languages of India have to one another in their Grammar, and argued from this consideration their common origin, I now proceed to bring forward some specimens of agreement in their vocabularies. Our task here is much more difficult, as the Sanscrit roots have such general meanings often attached to them, that by a little straining almost any thing can be deduced from them. It is probable also that the Sanscrit has adopted many words from the vernacular languages, which did not originally belong to it, and that it has been thus enriched by the spoils of the vanquished; just as the Latin of modern Europe has many words unknown to Cicero and Quintilian. We must however at present go on the supposition that all words found in Sanscrit Dictionaries are Sanscrit, and avoid as much as possible words which might seem derivable from Sanscrit roots, though this last consideration is of less importance, as the roots are not words, but the formations of Grammarians. The blanks in the following catalogue may often be the result of my ignorance, especially in the

Bengálí and Gujaráthí, where I had but limited materials to work on ; and indeed when I could connect the Hindí with the Maráthí, and that again with the Canarese, I felt less concern about the intermediate steps, considering that I had established sufficiently the analogy between the languages of the North and South. My authority for the Hindí, is Hunter's Dictionary, Calcutta 1808 ; for the Maráthí, Molesworth's, Bombay 1831 ; for the Telugu, Campbell's, Madras 1821 ; for the Canarese, Reeve's, Madras 1832 ; for the Tâmil, Rottler's, Madras 1834 ; for the Singhaliese, Clough's, Colombo 1830 ; for the Bengálí, Marshman's English and Bengali Dictionary, Serampore 1828 ; for the Gujaráthí, a small vocabulary printed at Bombay, and oral information. Except in this last instance, where I had no other alternative, I have never inserted meanings on my own authority and have generally given the very words of the explanations I found in the abovementioned Dictionaries, respectively, even when evidently synonymous, rather than run the risk of corrupting by endeavouring to harmonize them. I have sometimes been obliged a little to abridge them for want of space, and this is all the liberty I have taken. I have confined myself to forty primitive words, all expressive of such ideas as men must use in the infancy of society, or in the first stages of civilization, and which retain their places in a language from daily use, more firmly than any others. On these however many others depend. Thus for example I found by enumeration that No. 10 has given, as depending on it in the Hindí Dictionary, 12 words, in the Maráthí 40, and in the Tâmil 30, after separating carefully all words agreeing in sound, but not in meaning. Should each of the 40 words, in the following Table then have as is probable, on an average other 5 dependent on it, this will make the comparison extend to 200 words. A few of the most important of these derivatives as in No. 10, are occasionally exhibited, especially when they are useful for showing the connection between the different languages ; but to have inserted them all, would have swelled this paper to too great a length, and to my mind at least would not have placed the connection between the different languages in so forcible a light, as by a few primitives brought together, as is here done, connected in one table. In order to simplify the subject as much as possible, I have used only the Devanâgerí, and Roman Alphabets ; I may therefore, after all the attention I have paid to ensure accuracy, have made some lesser mistakes in converting the words of the languages of Southern India, and writing them in characters differing from those

in which they are usually written, especially in the Tamil. I feel confident, however, that these errors will be found of a nature not at all affecting the general resemblance of the words in which they may occur, to those with which they are compared. In conclusion I wish it particularly to be borne in mind that this paper claims no higher character than that of an Essay. Fully to discuss the subject would require a volume, and much more time than I can at present spare; new words and new analogies, as the subject is prosecuted, constantly presenting themselves, all leading to the same general conclusion.

LIST OF

	NORTHERN FAMILY.				SOUTHERN FAMILY.	
	Hindi.	Bangali.	Gujarathi.	Marathi.	Telugu.	Carnatica.
1	आपा. ápá. an elder sis- ter.			आपा, आवा, ápá ábá. sir, sire.	अप्प. appa. a father; an elder sister.	अप्प. appa. a father.
2	बाप; बाबू báp; bábú father; sir, sire.	बाप; बाबा báp; bábá. father; sire.	बाप; बा báp; bá father; sire.	बाप; बाबा, बापू. báp; bábá, bápú. father; sir, sire.	बाबू. bábú, father,	बाबा; बाबू. bábá, bábú, father.
3	काका; का- की. káká; kákí; pat: uncle; aunt.	खूदा. khudá; father's younger brother.	काका; का- की. káká; kákí pat: uncle; aunt.	काका; का- की. káká; kákí pat: uncle; aunt.	कक्क. kakka. father.	कक्क. kakka. an uncle, a father's younger brother.
4	एडी. edí. the heel.	एडी. edí. the heel.	एडी. edí. the heel.	एड. ed. spurring with the heel.	अडगु; एड- लु. aḍgu; eḍa- lu, a foot; to go.	अडी. aḍí. the foot.
5	पेट; पोटा. pet; potá; the belly, the womb; the stom- ach.	पेट. pet. the belly; the womb.	पेट. pet. the belly.	पोट. pot. the belly; the womb; the sto- mach.	पोट. potṭa; the belly.	पोट्टे, पोडे. potṭe, pode; the belly.
6	कुन्बी. kunbí, an agri- culturist.		कुणबी. kunabí. a husband- man, the caste of cultivators of the soil.	कुणबी; कुळ म्बो. kunbí kuḷ- ambí. a husband- man. कुळव. kulava. a harrow.	कोनटी. komṭí. a branch of the 3rd. caste. कुळगिचु. kullagin- chu. to dig slightly.	कुळ. kuḷa. a farmer. कुळगिसु. kullagisu. to loosen the soil.

WORDS.

SOUTHERN FAMILY.		REMARKS.
Tamil.	Singhalese.	
अपन; अपा- म. apan; apám. father; sire.	अप्पा. appá. a father.	<p>I. TERMS MARKING RELATIONSHIP.</p> <p>No. 1. The Telugu and Maráthí give us the Aramean <i>Abba</i> unchanged. <i>Ab</i> and <i>Obo</i> are used among the Siberian Tartars: See Klaproth's, As. Pol. The Coles S.W. Bengal use <i>apai</i>; the Himalayan Lepchas <i>abo</i>; the Murmis <i>aba</i>, and the Simbas <i>amba</i>, the word used by the Todas on the Nilgherry hills for mother is <i>aph</i>.</p> <p>No. 2. The Turkish <i>Baba</i> is found in Bengali, Mar. Car. unchanged. The Greek <i>πάπας</i>, Italian <i>papa</i>, are evidently the same as the Tamil <i>Pápán</i>, though this last seems confounded in the Dictionary with <i>Párépán</i>, the Tamil corruption of Brahman. The Sanscrit अम्बा <i>Amba</i> comes so near the Himalayan <i>amu</i>, <i>ami</i>, <i>amo</i>, and the Maráthí and Tamil <i>ayi</i>, the word for mother, that it is unsuited to our purpose.</p> <p>No. 3. <i>Kaka</i> and <i>kaki</i> are used by the Coles; and in a little different sense, the former in Persian. The Singhalese and Bengali are similar but peculiar.</p>
पापान्. pápán. holy father.	बप. bapa. holy father.	
	कुडप्पा. kudappá. Pat. uncle.	
अडि. adi. the foot.	अडि. adi. the feet.	
पेरु. peru. bear a child. पेटापिल्लै. petta pilai. own child.	फड्ड; बड. phaddh; bad. the belly; the womb.	
कुलम्बु. kulambu. clay, loam. कोलु. kolu; a plough- share.	कुम्बर, को- म्बर. kumbar, kombaru. a paddy field.	<p>II. PARTS OF THE HUMAN BODY.</p> <p>No. 5. Compare here the Persian پت <i>puť</i>, the liver, and the Arabic بطن <i>batn</i> the belly. The connection with the San. पेट <i>peť</i>, a large basket, is too remote to suppose this word derived from it. The Hindi <i>petkabeta</i>, and Tamil <i>petta-pillai</i> for <i>own child</i> are very analogous.</p> <p>III. TRADES AND PROFESSIONS.</p> <p>No 6. In the Persian we have كوي <i>Kui</i> or <i>Koi</i> a farm, and كويلو <i>Koilu</i> a rustic, nearly connected; and more remotely the Sanscrit कु <i>Ku</i>, the earth, कुम्भ <i>Kumbha</i>, an earthen pot, and कुम्हार <i>kumhar</i> a potter.</p>

LIST OF

	NORTHERN FAMILY.				SOUTHERN FAMILY.	
	Hindi.	Bangall.	Gujarathi.	Marathi.	Telugu.	Carnatica.
7	कोली. koli; a weaver; [see the first Tamil, and first Mar. mean- ing.]	कोलहान. kolhán. the hill country of the Koles, S. W. Ben- gal. A Kole and a rob- ber are there syno- nymous in the plains.	कोळी. a kolí. they are known chiefly as hunters and plunderers on the S. of Gujarath.	कोळी. kolí. a spider; a Koli; they are hunters, plunderers, fishermen, and some are agricul- turists.	कोळ. kolla. plunder.	कोळ. koḷu. plunder. कोळि. kolli. the act of killing.
8	दोर. dhor; cattle.		दोर. dhor. cattle; i. e. cows, and buffaloes.	दोर. dhor. cattle, i. e. oxen and buffaloes.	तोरलु. torralu. cattle. दोरु. dorri. a cow house.	दोरु. dorri. a cattle pound.
9	टटु. taṭṭu; a poney.	टाटु. ṭaṭṭu. a poney.	तटु. taṭṭu. a poney.	तटु. taṭṭu. a small breed of horses.	तटु, तटव. taṭṭu, taṭṭa- va. a poney.	तटु, तटव- नि. taṭṭu, taṭaváni. a poney.
10	आड. áḍa. oblique. आड; áḍ. protection; a skreen. अडना. adna. to hinder.	आड. áḍ. oblique. आडाल. áḍal. a skreen.	आडो. áḍo. across. आड. áḍ. intervention. आडइ. áḍae. hindrance.	आडवा. áḍavá. across. आड. áḍ. protection. अडथल. aḍthal. hindrance.	अडमु. aḍamu. transverse. अड. aḍ. and protection. अडङ्कि. aḍḍangki. hindrance.	अडड. aḍḍa. trans- verse. अडड कडु. aḍḍa kaṭṭu. to put a skreen अडगा- णिके. aḍḡánike. hindrance.
11	उब. ubh; oppressive heat.			उब. úb. sultriness.	उब. ubba. oppressive heat.	उबे. ubbe. oppres- sive heat.

WORDS.

SOUTHERN FAMILY.		REMARKS.
Tamil.	Singhalese.	
कोलियण. koliyan. a weaver of the Pariah caste. कोलिर. kolairur. huntsmen.	कोलिय. kollaya. plunder.	No. 7. The Kolf or Kole seems to be a branch of the aboriginal family, subsisting in various parts of the country. In the hilly regions in the interior they are known as huntsmen and plunderers; on the sea-coast as fishermen; in the plains on the Ganges and near Cape Comorin as weavers, and in the Deccan, on the Mahadeva hills, they have settled down to cultivate the soil. This word must not be confounded, as is sometimes done, with كولي Cooley, a porter.
तोरवु. torravu. a herd of cows. तोहि. toti. a pound.	तवलम्. tavalam. a flock, a herd.	IV. DOMESTIC ANIMALS. Nos. 8. and 9. If any animals can be said to be indigenous to India, the breed of cows with the hump between its shoulders, and the small breed of horses called Tattoo, certainly belong to the number, as they are to be found abundantly, and quite naturalized in every part of the country.
तटु. taṭu. a country poney.		V. NATURAL STATES AND SUBSTANCES.
अटम्. aṭam, acrose. अडकम्. aḍkam. enclosing. hiding. अडम्. aḍam. hindrance.	अडय. aḍaya. a prop. अडस्सिय. aḍassiya. obstruction.	No. 10. This root आड ḍd in the sense of a cross is evidently the original word from which the others are derived. The Sanscrit अड in the sense of overcome and अट going about, &c. seem quite different words, and enter into the Indian languages in the derivatives अड an upper room &c. There is also an Indian अट ḍt, the same apparently as अड ḍd. Compare also the Arab. أد and English aid.
		No. 11. The Sanscrit word उष्ण uṣhna variously corrupted, but never losing the ण, or changing it only to न, is found in most of the languages, and in a different shade of meaning from this word, which seems derived from a different root.

LIST OF

	NORTHERN FAMILY.				SOUTHERN FAMILY.	
	Hindi.	Bangali.	Gujurathi.	Marathi.	Telugu.	Carnatica.
12	थंड. thand. cold, calm.	ठन्ता. thántá. cold, cool.	थंड ताहाड. thánd, táháḍ. cold, calm.	थंड. thand. cold, calm.	तण. tana. cool.	तण्ण. tanṇa cold, calm.
13	कचपच. kachpach. crowded to- gether.		कचवच. kachvach. crowded state.	कच. kach. crowded- ness. गचाड. gacháḍ. a thicket.	गच्चु पिच्चगु. g·chchu pichchagu. to be thrown into confusion.	कच्चपचि. kachcha- pachi. confusion; jellied- state.
14	कोरा. korá. raw, new.	कांरा. kárá. raw.	कोरो. koro. raw, un- bleached.	कोरा. korá. raw, un- bleached.	कोरा. korá. unbleach- ed.	कोर. kora. defective.
15	रेल. rel. a flood, a string of animals.		रेल. rel. a flood.	रेल. rel. exuber- ance.	अल. al. a wave.	अल. al. a wave.
16	कंकर. kangkar. a nodule of limestone.	कंकर. kangkar. gravel.	कांकरा. kángkará. gravel.	कंकर कांकर. kangkar, kángkar. gravel.	कंकर. kangkara. gravel.	कंकरे. kangkare. gravel; hard sand.
17	उत्तु. uttu. plaits of cloth.			ओटी. oti. the robe gathered up to form a lap.	ओडि. odi. the lap.	ओडु. ottu. to cast things into a corner.
18	ओप. op. polish; beauty.		ओप. polish.	ओप. polish.	ओप्पु. oppu. elegance; beauty.	ओप्प. oppa. well polished.
19	काठी. káthí; a saddle.		कंठाल. kanthál. a pack sad- dle.	कंठाल. kanthál. a pack sad- dle.	कंठालमु. kanthalmu. a pack sad- dle.	कंठि. kantṭi. a pack saddle.

WORDS.

SOUTHERN FAMILY.		REMARKS.
Tamil.	Singhalese.	
तण. tan. cool.		<p>No. 13. The Tamulians confound the <i>ch</i> and <i>s</i>, so that the Sanscrit चण्ड and सण्ड are corrupted into the same word. Our Tamil word then is equivalent to <i>Kachangal</i>.</p>
कसंगल. kasangal. the state of being squeezed.		
कुरै. kurrai. defect.	कोरदस. koradus. unripe grain.	
अलै. alai. a wave.	रल. ral. a wave; a flock.	<p>No. 15. This word in Maráthí means an overflowing abundance; and when on the Bali Prati-pada, the Kunbis pray to have Bali's Kingdom restored, and all its accompanying blessings, the word by which they express these is रल.</p>
कंकम्. kangkam. crude arsenic.		
ओडुकिडम्. odukiḍam. a recess.	ओडुकुव. odokkuva. a place in the waist for money, &c.	<p>No. 16. कैकर in Sanscrit means buttermilk mixed with water, and for the Hindi कैकर the Sanscrit is कर्कर. The conversion of Reph into a nasal is, I believe, unprecedented, and therefore the word, though near, is still different, from the Sanscrit, especially as the nasal keeps its place in all the languages.</p>
ओपु. opu. smooth- ness, beau- ty.	ओप. opa. glittering, v. polish.	
कंडालम्. kandālam. a pack sad- dle.		<p>No. 18. This seems a genuine aboriginal Indian word, probably connected with the Persian پ and Sanscrit आपः, the former word meaning both water and beauty; but the latter not used figuratively. The Singhalese to form the verb requires the auxiliary to <i>do</i>.</p>

LIST OF

	NORTHERN FAMILY.				SOUTHERN FAMILY.	
	Hindi.	Bangali.	Gujarathi.	Marathi.	Telugu.	Carnatica.
20	कावर. kavar; the baskets in which Ganges water is carried about.		कावड. kavar. a lathe for carrying burdens. &c.	कावड. kávár. a lathe with slings at- tached at either end for carrying baskets, &c.	कावडि. kávári. a piece of wood made for being placed on the should- er to carry burdens with ropes at each end	कावडि. kavari. a split bambu with ropes attached at the ends for carry- ing bur- dens.
21	कुर्नी. kurní. a scoop. कोडना. kodna; to scoop.	कुर्नी. kurní. a scoop.	कोयरु. koyaru. to scoop.	कोरणे. korané. to scoop.	कोरकु. korraku. to gnaw; to grind.	कोरबु. korabu. to scoop out.
22	छाप. chháp; a stamp.	छाप. chháp. a stamp.	छापो. chhápó. a stamp.	छापा. chhápá. a stamp.	चप्पा. chappá. an impres- sion.	चाप. cháp. a stamp. चापि. chápi. a floor mat
23	झोपडी. jhopaḍi; a hut.	झुपडी. jhupaḍi. a hut.	झोपडी. jhopaḍi. a hut.	झोपडी. jhopoḍi. a hut.		जोपडी. jopaḍi. a tent; a hut.
24	टट्टी. tatti; a screen; a matted shutter.		टट्टी. tatti. a blind made of split bam- bus, &c.	तट्या. tatya. a bambu mat.	तडक. taḍaka. a tatty; a straw blind.	तट्टिकि. taṭṭiki. a tatty or blind.
25	पोट. poṭ; a bale.			पोतें. pote. a sack.	पोट्टमु. poṭṭamu. a small pa- per bag.	पोट्टण. poṭṭan. a paper bag.

WORDS.

SOUTHERN FAMILY.		REMARKS.
Tamh.	Singhalese.	
का, कावडि. kā, kāvari. a piece of wood with ropes at- tached, &c.	कवडन. kavandan. a bullock's yoke.	<p>VI. ARTIFICIAL PRODUCTIONS.</p> <p>No. 20. Something like the Kavar is used in England by the milkmaids. It is an exceedingly common contrivance for carrying light loads in India.</p> <p>21. The 2nd Pers. Sing. Impt. of the Singhalese verb is used the better to shew the analogy. From the Sanscrit क्षृ to cut, comes क्षुरी, corrupted in Hindi to छुरी, so that it is not likely that this word is derived from that root.</p> <p>No. 22. The Sanscrit चप means among other things to reduce to powder, a meaning never applicable in the vernacular tongues. If the Sanscrit is not misinterpreted, our word must be different. It is possible however that the sense given is borrowed by the author of the Dhātu Manjari from a hasty induction of words in the vernacular tongues, and that he should have given the idea of stamp, impression, &c.</p>
कोरपु. korrabu. nibbling, as a mouse.	कुरुटु. kuruṭu. a rasp.	
चापै. chāpai. a straw mat.		
तटि. taṭi. a skreen.	तटिटु. ṭaṭiṭu. a ceiling, a ship's deck.	
पोदि. podi. full sacks or bags.	पोदिय. podiya. a bale.	

LIST OF

	NORTHERN FAMILY.				SOUTHERN FAMILY.	
	Hindl.	Bangall.	Gujurathi.	Marathi.	Telugu.	Carnatic.
26	मोटरा. motra. a bundle.			मुडा. mudā. a package. मोव्या. moṭyā. a porter.	मुडवु. muddavu. a bundle of money, &c.	माटे. moṭṭe. a burden; a bundle.
27	थेवा. theva. a stone set in a ring.		ठेव. theva. a deposit.	ठेवणे. ṭhevanē. to place.		
28	कनवडा. kanvanḍa. diffident.			कनवाळ. kanvāḷū. sympathiz- ing.	कनिकरमु. kanikarmu. sympathiz- ing.	कनिकर. kanikar. pity.
29	मोटा. moṭā. fat.	मोटा. moṭā. fat.	मोटो. moṭo. large.	मोटा. moṭa. large, great.	मुदुरु. muduru. full growth.	माट. māṭa. handsome
30	अटकल. Aṭkal. conjecture.	अटकल. aṭkal. conjecture.	अटकल. aṭkal. conjecture.	अटकल. aṭkal. conjecture.	अट. aṭa. it is report- ed.	अडसटु. aḍsaṭu. conjec- ture.
31	उभरना. ubharnā. to overflow.		उभरावू. ubharāvū. to overflow.	उबरणे. ubaranē. to emit pus copiously.	उबुकु. ubuku. to overflow.	उबुकु. ubuku. to over- flow.
32	उलटाना. ulaṭānā. to overturn.	उलटा. ulaṭā. turned over.	उलटा. ulaṭā. turned over.	उलटणे. ulaṭane. to turn over. उलट. ulaṭ. turned back as a wheel.	उरलु. uralu. to roll.	उरलु. urulu. to roll, to turn round.
33	कच कच. kach kach. altercation.		कचकच. kach kach. altercation.	कचकच, कट कट. kach kach, kaṭkaṭ. wrangling.	कचचे. kachche. a dispute.	कटकटेयु. kaṭ- kaṭeyu. teazing.

WORDS.

SOUTHERN FAMILY.		REMARKS.
Tamil.	Singhalese.	
मुडिचु. muḍichu. a bundle.		<p>VII. QUALITIES.</p> <p>No. 28. The root here is the Telugu क॒नु as a noun meaning the <i>eye</i>, and as a verb <i>to see to regard</i>. Thence these adjectives seem to be derived. The Sanscrit कण means the facet of a gem; and कनिकी the pupil of the eye is more probably adopted from this than itself the root. At any rate no adjective, similar to those in the vernacular language derived from any of these words, exists in Sanscrit.</p> <p>VIII. ACTS.</p> <p>No. 30. The Telugu भट is here again clearly the root of these words.</p> <p>No. 31. Compare here the Latin <i>Uber</i>.</p> <p>No. 32. The English <i>Whorl</i>, Sanscrit, वलय a bracelet, and वर्तुल a circle, may all have a distant connection with these words.</p>
तवट्टल. tavaṭṭal. a conceal- ing, a stay- ing.		
कण्णरालि. kannarāli. a melan- choly event.	कनकल. kanakal. excellent.	
मोत्तमुट. mottamuṭa. the total.	मोनवट. monvat. beautiful.	
उबुकल. ubukal. overflow- ing.		
उरुफ़. uruḷa. a wheel.		
कटाकम्. kaṭākam. disputation.		

LIST OF

	NORTHERN FAMILY.				SOUTHERN FAMILY.	
	Hindi.	Bangali.	Gujurathi.	Marathi.	Telugu.	Carnatica.
34	कर कर. kar kar ; immoderate laughter. कडाका. karaka ; a crash.	कडकड. karkar. a rattling noise.	करकड. karkar. a crash.	कडकड. karkar. sound of drums, &c. कडाकड. karákar a crash.	कडायमु. karáymu. violence.	कडकु. karaku exertion joy.
35	गुडगुडना. gudgudná. to rumble. गुडगुडी gudgudí. a small hookah.		गगडवु. gagaḍavú. to rumble.	गुडगुडणे. gudgudne. to rumble. गुडगुडी. gudgudí. a hubble bubble.	गुटगुट. guṭ guṭ. the noise of boiling water.	गुडगुडि. gudgudí. the noise made by a hookah.
36	जोडना. joḍna. to join. जोडा. joḍa. a pair ; a pair of shoes.	जोडा. joḍa. a pair.	जोडो. joḍo. a pair.	जोडणे. joḍne. to join. जोडा. joḍá. a pair ; a pair of shoes.	जोडु. joḍu. a pair ; a pair of shoes.	जोडिसु. joḍisu. to unite. जोडु. joḍu. a pair ; a pair of shoes.
37	ठेक. ṭhek. support.		ठेकवु. ṭhekavu. to support.	ठेकणे. ṭekane. to place on a support.	ठेकमु. ṭekamu. a banner.	ठेके. ṭeke. a banner ; an em- brace.
38	फिरना. phiraná. to turn ; to return.		फरवु. pharavú. turn round.	फिरणे. phirane. to turn ; to turn away.	पिरि. piri. to separate one's self from another.	पिरि. piri. to sepa- rate one's self from another.
39	बोलना. bolana. to speak.	बल. bal. speak.	बोलवु. bolavú. to speak.	बोलणे. bolane. to speak.	बोलु? bollu. to boast.	बोलविसु? bolavisu. to bless.

WORDS.

SOUTHERN FAMILY.		REMARKS.
Tamil.	Singhalese.	
<p>कडगडु. kargarapu. a rattling sound like thunder.</p>	<p>करदर. kardar. teazing.</p>	<p>Nos. 33, 34, 35. The reduplicated form of these words is characteristic, and shews the close relation they have to one another; otherwise the two first might be easily enough traced to Sanscrit roots, and their belonging to the primitive Indian tongue not so evident.</p>
<p>कुडुकुडि. kudukudi. a hookah.</p>		
<p>चोडु. choḍu. a pair; a pair of shoes.</p>		
<p>तेकल. tekal. a being stayed.</p>		<p>No. 36. I do not know any instance of the conversion of ग to ड; so that this cannot come from the Sanscrit योग, which besides is a common word in many of the languages. Another singularity is the use of the term meaning <i>a pair</i>, as a specific word to denote a pair of shoes, but not any other specific pair.</p> <p>38. This resembles in form the Sanscrit preposition परी, and the Greek <i>πρὸς</i>. It agrees better in meaning with प्रति, though its being used as a verb, and inserting the र after the first consonant are characteristic. In the northern tongues both परि and प्रति are extensively used by the educated, but never confounded with this verb.</p>
<p>पिनरु. pinru. retreat.</p>	<p>पेरल. peral. overturn.</p>	
<p>पोलिप. polip. a brief ex- planation.</p>	<p>बोला. bola. a familiar term of ad- dress.</p>	

NORTHERN FAMILY.				
	Hindi.	Bangali.	Gujurathi.	Marathi.
40	मोड़ना. moḍana. to bend.	मोड़ा. moḍa. bend.		माडणे. moḍane to break be
41	अबे. abe. Interjection of scorn.			

WORDS.

SOUTHERN FAMILY.		REMARKS.
Tamil.	Singhalese.	
<p>मुदि. murí. to break.</p>	<p>मदनवा. maḍanvá. to squeeze.</p>	<p>No. 41. I have added this interjection as running in somewhat different senses through the languages.</p>
<p>अपा. apá. Inter. of grief.</p>	<p>अपोयि. apoyi. alas! oh!</p>	

IV.—We have great pleasure in re-publishing the following Circular of the Royal Society of Northern Antiquaries, for which we are indebted to a distinguished member of that body now prosecuting researches in this Presidency.

“THE ROYAL SOCIETY OF NORTHERN ANTIQUARIES, founded with a view to increase and diffuse the knowledge relative to the Antiquities of Northern Europe, has endeavoured to attain its object by the publication not only of the most important ancient MSS. of Northern literature, together with translations of, and commentaries on them, but also of works illustrative of other objects of archæology. Of late years, however, the Society has turned its attention to those countries, of which the early history may be said to be of great importance to northern Europe, as well as likely to receive light from it in return. The Society, therefore, has endeavoured to enter into a correspondence with learned men and scientific bodies in those countries, in the hope that the scientific advantages resulting from a steady and mutual co-operation will be found to be reciprocally beneficial.

The Society has already experienced that such a mutual co-operation tends to the happiest results,—and is therefore desirous to effect such an intercourse with Societies and learned men in Asia. For this purpose the Society has appointed a Committee, the object of which is to endeavour to throw light upon the relations which have existed of old between the North of Europe and Asia.

The inhabitants of the North of Europe belong to the stock of nations, which spread itself from the banks of the Ganges to the Atlantic Ocean. It is but natural, therefore, that there should be corresponding points between the various languages, which have had one source in common. Much has been done of late years towards finding out and proving such relation or coincidence; from these researches, however, the *Old Northern Tongue* has been excluded, although it is the only ancient Gothic language which we possess entire, and which in fact may still be called a living tongue; and although both in a grammatical and lexicographical point of view, it exhibits so many discrepancies from the other Gothic languages, and so many points of resemblance with the *old languages of India and Persia*, that it is well worthy of a place in our disquisitions on comparative philology.

an tongue is preserved in its purity in the ancient
s, in which is also preserved the Old Northern
has long been supposed and partly ascertained to
amon with that of India and Persia, and wherein
ems to have left its traces. At all events, these are
y claim to our serious attention, and to such a care-
amination as will lead to a definite result.

mittee intends also to turn its attention to the prac-
se nations, whether public or private. It is not only
ms of *Government, Worship, Ceremonies and Rites* or
ms, which should be considered ;—but also *Domestic life*,
whether of stone, bronze, copper or iron ; *Ornaments*,
of metal, but such as were made of amber, glass, etc.
matters a clear light will be thrown by a comparison
of antiquities.

note antiquity commercial relations existed between
North of Europe. Abundance of *Cassite* coins and
frequently discovered in excavations, which would
the inference, that such commercial intercourse exerted
important influence on the North, and likewise on the countries
hence, the intercourse originated.

is the outline of the plan this Committee intends to follow
to attain the object it has in view. But this it cannot effect
and unaided. It wishes therefore to invite scientific societies
and learned men in Asia to enter into correspondence with it, and
learned men towards the attainment of an object, which is of the
importance to the common interests of science. Such a con-
ference by a reciprocal interchanging of Dissertations
of the learned Societies in both countries ;
on both sides, and by communication
as by a mutual exchange of antiquities
Such a connexion, moreover, would
the learned of Asia and Europe, and would
of the various works of science which
published."

V.—Ehrenberg on the Coral Islands and Banks of the Red Sea.

(Continued from page 72.)

Of the general nature and formation of Coral Banks as hitherto known.

It appears that Mr. Strachan, an Englishman whose name is not much known, had discovered in the year 1702 * in Ceylon, that the coral-animals were able, by mere activity, to form large masses of rock. "There is a great quantity of a kind of white coral upon the shore between Galle and Matura—the Hollanders building houses and walls of it. There are great banks of the said coral, and between and upon these grow others until it is become like a rock for thickness. These branches are not softer when they are young than when they are ripe, yet I have always observed a slime upon them when they are under water, which I suppose is the substance which petrifies." Before him, Linschoten merely observed in the Mosambique Channel, 1599, that the corals appeared as masses of rock, and from the simple account he gives, it would appear that the term coral-rocks had been generally applied by seamen to the rocks of the South Sea, as early as the middle of the 16th Century; but I have not found proofs for it elsewhere. It is true don Juan de Castro mentions, 1540, two sorts of corals in the Red Sea, but he did not think them identical with the banks which he calls rock. † In the year 1780 the ingenious and celebrated John Reinhold Forster of Dirschau near Danzig, who died as Professor in Halle, and who, with his son, had accompanied Cook on his second voyage round the world in 1772, first directed the attention of the public to the influence of the coral animals upon certain islands of the South-Sea. From his own observations he was persuaded that they greatly co-operated in the formation of many isles. He thus expresses his opinion in his "Notes upon a voyage round the World," p. 20—"All islands in the various seas which we have crossed, may be properly considered submarine chains of mountains, whose summits rise above the

* Some observations on Coral made in Ceylon.—Philos. Transactions, vol. xxiii., p. p. 1248, 1702.

† The same author speaks of red and white corals in the Red-Sea, and Flarant von Pölschitz 1599, also mentions red corals there, as Pliny had done before him. I have exchanged the Sicilian red corals in Massava for their weight in gold,—a sufficient proof that they are not now to be found there. What may those red corals have been? According to Pölschitz, p. 638, they were as thick as an arm; hollow and porous; consequently they must have been tuff corals, and not red corals. I have brought with me from thence a few specimens of the black coral celebrated from ancient times; they are of the *Antipathes* *laidis* *Plocamos*, a form hitherto not scientifically known.

The red Coral of the Red Sea is undoubtedly the *Tubipora Musciculis* (T. Ruberrima of Ellis) which abounds on its shores; at Tejoura, and at Aden, from which there are specimens in the Museum, collected by Captain Young I. N. The solid red Coral of commerce (*Corallium Rubrum*) is a production of the Mediterranean. It is imported into Bombay, but in small quantity.—Editor.

water:" and in the part which is superscribed "System of the formation of Islands," page 126, he divides islands into 3 classes, viz. 1, Sand hills; 2, mountainous islands with coral banks; 3, mountainous islands without coral banks. According to him, all islands of the 2nd and 3rd classes show, with scarcely a single exception, plain vestiges of a former violent change of their surface by fire, or rather by Volcanoes; but all flat islands which belong to the first class, grow in the Sea, or rather are the works of polypes, being raised by lithophytes from the bottom of the sea, and gradually spreading as they approach its surface. He thinks the banks built by coral animals always encircle a sea with abundance of fish, but their circles have frequently many openings. The bank, he imagines, is built by the worms perpendicular like a wall, until a little beneath the surface of the water. The waves drive sand, shells, sea-weed, and fragments of corals upon it, which raise the wall, until at last it rises above the water. The sea continues to accumulate firm particles upon it, and the waves and birds carry thither the seed of plants which grow on the shore: some of these, when they die produce mould, and if a cocoanut—which long retains the power of sprouting—should be driven upon it, it will become a tree, from which splendid forests of cocoanut-trees will afterwards spring. Forster adds—"The worms which build the bank appear to secure their dwelling by instinct from the fury of the wind and the foaming sea: they build their coral banks in the tropics, where the wind almost always blows from the same quarter; and so raise their habitations, that they form a sort of a circular wall, separating a part of the sea where the breakers are not so high as in the rest of the ocean." However, this latter remark betrays an imperfect knowledge of coral animals.

Forster's observations of the formation of islands in the South-Sea, are ingenious and original, but not always correct. In the year 1814 they were again brought into notice by Captain Flinders, who was of the same opinion as Forster—being led to it by observing a small island in the Torres Straits between New Holland and New Guinea called by him Half-way-island. He himself saw that the islands there were lying near each other in different gradations of formation and perfection. Some of them were finished, but still uninhabited; others rising above the surface of the water, but as yet void of vegetation: and there were others again which were covered with water by every flood-tide. He writes as follows:—"It appears to me that when the animalculæ which form the corals in the depth of the sea cease to exist, their

" buildings stick together, either by something adhesive in themselves
 " or by some peculiarity of the sea water. When the interstices
 " are filled up with sand and fragments of corals, which are also ad-
 " hesive, a rocky mass is produced. Future generations of these animals
 " build upon this rising bank, and when they die, contribute to its spread
 " and growth. The surprising instinct of these inconsiderable animals
 " is exhibited in the care which they take to make the first gradations
 " of their building perpendicular. When their rocky wall, especially in
 " places where the wind continually blow, has reached the surface, it
 " forms a parapet, near which, protected against the wind, they can
 " rear their young without interruption."—With the same instinctive
 foresight, they build the side of the coral bank which is exposed to the
 wind from the open sea, generally, if not always, very high and nearly
 perpendicular, so that it sometimes rises from the depth of 200,
 and perhaps more, fathoms. It appears necessary to the existence
 of these animals to be constantly covered with water, for they
 build only in the crevices of the rocks which are filled with water at
 low ebb: but coral, sand and other fragments washed upon it by
 the waves, stick to it, and thus form a strong mass as high as the
 flood-tide. Fragments above this height, which are scarcely covered
 with water, lose their cementing property and remain scattered—thus
 forming a hillock upon the top of the rocks. The newly finished bank
 is soon visited by birds; marine plants take root upon it, and mould is
 formed: a cocoanut or pandanus fruit is cast upon its shore; land birds
 resort thither and carry to it the seeds of plants and trees. Every high
 flood-tide, and still more every gust of wind makes an addition to it;
 it gradually becomes an island, and last of all, man comes and take pos-
 session of it. Peron stated his opinion far more exactly than Captain
 Flinders; it fully agrees with both the above mentioned, and had been
 formed from observations made on the occasion of Captain Baudin's
 expedition at the same time with that of Captain Flinders; but his lively
 imagination ascribed to coral animals such a share of influence upon
 the formation of the surface of the earth in the tropics, that he men-
 tions 245 islands and portions of land which he supposes to be wholly
 or in part the productions of coral animals, and which he fancies these
 microscopical creatures have built from the bottom of the sea and
 formed into extensive table lands. Peron examined the island of Timor
 more particularly; which, with its mountains, he ascribes solely to the
 work of coral animals, and compared to which, the most stupendous

buildings of men are only inconsiderable and paltry. Peron believed, at that time, that all volcanic elevations of rock and land must have great irregularities in their surface, and as he did not find this in the coral islands visited by him, he clung firmly to the opinion, that the sea must formerly have covered them; but left it to others to explain how this could be possible—contenting himself with stating what he considered the fact.—Peron's Voyage, vol. II., p. p. 165 to 192.

After Peron, Adalbert de Chamisso was most assiduously engaged in the examination of coral banks during his voyage round the world with Captain Kotzebue, in the years 1815 to 1818, and to him we owe the first fully detailed description of the coral banks of the South Sea, and a more systematic description of their formation. With the cold penetrating eye of a naturalist, separating that which was probable from that which was possible, De Chamisso observed in a very particular and ingenious manner the island Radak, and described it in a warm lively manner: he gave in one view a much more perfect and vivid description of the general formation of such islands than either Forster or Flinders. What De Chamisso has described in detail, p. 30 and p. 106 of his "*Notices of a Voyage*," we find at page 187 comprised in one picture, which indeed is not dissimilar to that drawn first by Forster, and after him by Flinders, but which contains much originality in a natural manly manner; it is all from his own experience, and nothing borrowed for the sake of ornament. The following is a sketch of this picture. "The fact that coral islands appear in rows, and that there are many in some, and few in other places, in the same sea, leads to the conclusion that coral animals have erected their buildings upon shallow places or on the summits of submarine mountains, which they increase in height and breadth. The larger kind of coral animals appear to prefer the more agitated parts of the sea; this circumstance causes shells and fragments of corals to be thrown over the wall raised by them, and thus prevents them from building in the middle; this accounts for the circumstance of the exposed side first reaching the surface. At low water these banks gradually become dry near the surface. The coral animals then cease to build, but the waves wash shells, fragments of corals and sea urchins between the rows of coral, and thus by the cementing sand produced by friction being acted upon by the sun, forms one solid mass as hard as a rock. This gradually increases by the same means, and grows in size until it at last be-

comes so high, that it is only covered by high flood tides. In the dry season the sun heats the mass of rock to such a degree, that it splits in many places and comes off in layers. The waves pile these flat stones upon each other; coral rocks and limesand are thrown upon them in a similar manner. The limesand forms, and offers to the seed of trees and plants growing on shores, a fertile soil, so that its white ground is soon overshadowed with trees; this is sometimes accelerated by the arrival of full grown trees, which have been washed by torrents from their native soil, and find here a resting place after long wanderings. With these arrive small animals, such as lizards and insects, to be the first inhabitants. Before the trees unite themselves into a forest, seabirds make their nests upon them, stray land birds take refuge in the bushes, and when all is completed, man comes, takes possession of the fertile soil produced by withered and rotten leaves, and calls himself lord and proprietor of a new world." Besides this, Chamisso gives a full description of the circular formation of coral rocks.

An excellent essay on the same subject was written in the year 1823, by Messrs. Quoy and Gaimard, upon a voyage of discovery with Captain Freycinet; it was read in the Academie des Sciences at Paris in 1824, and is printed in *Annales des Sciences Naturelles* 1825. The opinion of both these learned men is, that the influence of coral animals upon the formation of islands in the South Sea has been exaggerated, and that the phenomena which have been given as proofs, are often erroneous, in consequence of their having been superficially examined. This remark is the more important, as it agrees with what is maintained by Leopold von Birch in his description of the Canary islands, 1825; in which he criticises and compares, in a most accurate and scientific manner, the geological accounts of all travellers in the South Sea.

Peron was very sharply reproved by his countrymen for being bigotted to his own opinion, to prove which he injured the truth by making quotations and appealing to authorities, which were founded upon superficial observations. Quoy and Gaimard do not think that the Society Islands, New Ireland, the Lousiade and others, are built wholly or in part by coral animals, but that all of them have a different rock for their foundation, similar to that of other known islands and continents: slate, sandstone, limestone, and even granite, are found upon the various islands of the South Sea; even in Timor, from which they imagine that the islands have been produced by volcanic

The above mentioned writers describe the manner in which Lithophytes build their dwellings upon foundations already existing, of a different nature from their own ; and they also point out what circumstances contribute to their growth and elevation, and what do not.

Further, they endeavour to prove that there exists not one island of any consideration constantly inhabited by man, which is entirely built by coral-animals ; and that these little creatures do not build perpendicular walls from the bottom of the sea, but only form layers and crusts of a few fathoms in thickness.

They say that the polypes which produce stone, increase where there is constantly high temperature, and where the bottom of the sea is cut up in caves enclosing shallow and quiet water, where they are not disturbed by high waves or the trade winds. They build upon submarine rocks, but do not form them ; they merely cover them wholly or in part. All circular coral banks of the South Sea, according to their opinion, depend upon the foundation on which they build. Masses of madrepores, are only met with in sloping and shallow cliffs ; whilst in agitated places, specimens of a globular shape are seen scattered.

Again, it is true, they admit the fact which has been often told by seafaring men, that there are coral-banks in the South Sea, which rise like walls from a depth which cannot be fathomed ; but Quoy and Gaimard contest that these perpendicular walls are not wholly formed by corals.

1 Because the beautiful colours of coral animals can only be produced by the influence of light, which does not exist at a great depth.

2. Because at a depth of several fathoms, none of these animals are seen to grow, much less can they exist at a depth 1000 or 1200 feet.

3. Because in this case these animals would be the only creatures that could live in all depths, under every pressure of water, in every temperature.

4. The sea at great depths is always in motion, and breaks with tremendous force against the banks, even if not put in motion by wind ; now if coral animals build in places not exposed to strong winds, which is a well proved fact, it is certain that the steep walls in the teeth of winds cannot be erected by them. They rather build in shallow places or where they can find a shelter, and thus contribute to diminish the depth of the sea which already is not great.

5. All those walls which people say have been built by coral ani-

mals, have clefts in them, through which the sea can flow. If those circular perpendicular coral banks were built throughout by coral animals, these openings would not be so deep, for coral animals build in solid masses; and could they build up from the depth, these openings would not be formed, whereas they are found in all these walls without exception.

Their reasons for considering it improbable, that any considerable inhabited island has been built throughout by coral animals, are the following.

From the examination of the island of Timor, especially near Coupang, no proof whatever can be gathered for its being formed by coral animals as Peron asserts, however interesting and surprising the influence of corals upon it may be; but it appears plainly that slate rock with veins of quartz, in which even gold and copper are found, and masses of volcanic rock, served them as a basis for their building; and calculating the thickness of the crust of coral, we found it to be only from 25 to 30 feet.

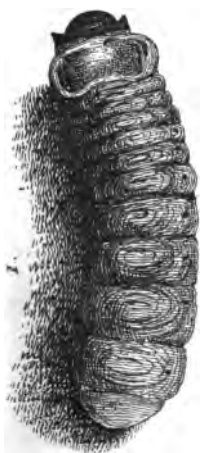
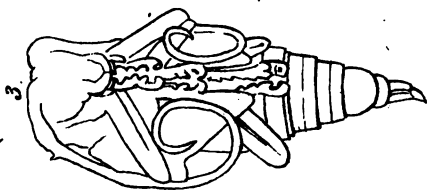
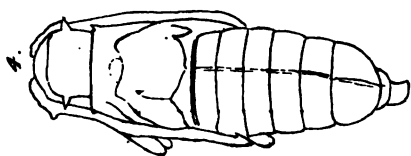
Again, the *Astreæ*, which alone can cover extensive plains, begin between 25 and 30 feet below the surface of the water, and build up to its surface. Anchors and sounding-leads have never brought up fragments of it from a greater depth. The branchy madrepores, which never form dense and firm strata, live in a greater depth—50 or 80 fathoms; and *Retepora* as deep as 100 fathoms, which we ascertained ourselves.

John Barrow lately directed the attention of the public to the description by Lieutenant Kendal of one of the Shetland islands, which is of a circular form, inclosing a sea, and still shows volcanic activity; at the same time he hinted at the similitude of the coral islands in the Pacific,* which he mentioned on former occasions, whose volcanic basis is, by the surprising activity of the small coral animals, transformed into fertile islands. (*Journal of Royal Geographical Society*, Vol. I., London 1830-31, page 62). If we compare these various accounts of learned circumnavigators and naturalists, we are immediately struck with their contradictory statements, upon which, however, I do not here enter farther, but proceed to state my own observations.

With regard to the formation of islands and rocks coated with corals,

* I was not able to meet with these words in Mr. Barrow's works. Perhaps he has the honor to be the first who published that volcanoes were the basis upon which coral banks in the South Sea are erected. Perhaps he only expressed this supposition verbally.





these naturalists confirm the accounts of their predecessors, one of whom was Forster. For this purpose they examined to their entire satisfaction, the small island of Kera in the bay of Coupang near Timor.

According to an account of De Blainville, in his interesting essay on Zoophytes (*Dictionnaire des Sciences naturelles*, Article Zoophytes, 1830, page 96) Professor Reinhard, who was some time in India, does not believe that Quoy and Gaimard were correct: he rather approves of the representations of Forster and Peron, but gives no particular reasons for it.

(*To be continued.*)

VI.—*Note on the destruction of the Adansonia digitata and other trees, by a species of Lamia.*

THE rapid destruction of the large *Adansonia* in Colaba, which has been noticed by many of the residents in Bombay, has been effected by the larvæ of a species of capricorn beetle; a correct representation of which, in its several stages, is given in the accompanying lithograph executed at Madras, from a drawing made by Professor Orlebar. This beautiful tree was apparently vigorous and free from disease in August 1840; and it was not till the end of October that I observed, that one of the principal branches was bored by numerous round holes. In January this branch, which Mr. Buist ascertained to be 13 feet in circumference, fell, and a few days after I examined it, and found the part which had given way penetrated by irregular cavities filled with gnawed wood. These cavities were of considerable length, and varied from $1\frac{1}{2}$ to $\frac{3}{4}$ of an inch in width: most of them were empty, but after cutting away part of the wood, I found several to contain the large grub, figures 1 and 2. These were of various sizes, and corresponded more or less nearly to the part of the cavity in which they were found. The destruction of the substance of the branch was great, and with the extreme softness of the wood and the weight of the top, explained the fall of the branch. The crysalis was found at the same time, and an injured specimen of the perfect insect was given me by a horsekeeper. The perfect insect (figs. 5 and 6) was drawn from a specimen brought to Mr. Orlebar by one of the students at the Elphinstone College, whose curiosity had been excited, and who searched for it several days. They have since been found abundantly on this and other trees in the island. A copy of the drawing was sent to London, and was examined by the Rev. Mr. Hope, President of the Entomological Society, who favored me, through Dr. Royle, with some remarks regarding it, which he also submitted to the Entomological So-

ciety at one of its meetings last winter, (Annals of Natural History, February 1842.) The following is an extract from his letter :—" The " *Lamia* is *Lamia sentis* of Linneus, and some have confounded *Lamia rubus* with it, which is an error. I lately mentioned, in a paper " to the Entomological Society, that the ravages produced by *Lucanus* " and *Lamia*, must cause great destruction in an Indian forest, and re- " gretted that I could not substantiate the facts. Your letter gives " ample evidence of the powers which these minims of creation possess, " and confirms my previous view."

The almost total destruction of this great tree, which is 44 feet in circumference, in little more than a year, is a very remarkable fact, and certainly does afford a strong confirmation of Mr. Hope's views; but the destruction of the tree, which he proposes as a means of checking the evil, does not seem to be requisite, as the trees in the neighbourhood do not appear to be attacked, —disease, if it may be so called, spreading from the part first affected, like an ulcer, one branch falling after another as the decay extends round the trunk. The bark is left untouched, except by a few round holes, caused, I believe, by the full-grown insects eating their way out. Probably trees having hard wood are not liable to be attacked. I extracted many years ago, at Hyderabad, a similar grub from the Horse Raddish tree (*Hyperanthera Moringa*) ; and many fine graft Mango trees were destroyed or injured at the same time, in the neighbouring station of Bolarum, by a similar insect. The gardeners endeavoured to get rid of the evil by cutting into the tree and removing the part attacked, but I believe, without much success, as it was not discovered till the round hole made by the perfect insect eating its way out, showed that it had already made some progress. The cocoanut trees in Travancore and Malabar are often destroyed by the young leaves of the head being devoured by a grub, probably of the same family. I have heard that this insect is eaten by the natives.* A distinguished naturalist, Mr. F. D. Bennet, in his Narrative of a Whaling Voyage round the world, mentions, that at the Island of Timor a wooding party from the ship "brought him the *Larvæ* of a " gigantic beetle, which had been found in the trunk of a tree. It was " of that kind usually eaten by the Malays, and which, when preserv- " ed in sugar, is also esteemed a delicacy by the Chinese. Its body

* This custom is not peculiar to the East, if we may judge from the name of a species common in the North of Europe, *Lamia dikis*.

" is soft, of a delicate whiteness, and, in addition to the normal members, has on the back a series of false feet, similar to those that obtain in the *Cerambyx* family of beetles."

The name given by Linneus to the insect found in the *Adansonia* is *Cerambyx sentis* not *Lamia sentis*, as mentioned by Mr. Hope,—the genus *Lamia* having been separated from the great tribe of insects classed by Linneus under the former name. He mentions that the " larvæ of the *Cerambyces* bore through the inner part of trees, pulverising the wood, and are transformed into perfect insects in the " cavities they make."

A similar observation is made by La Marck regarding the whole family, which he has divided into ten genera: "Tous ces insectes, sont phytophages, et dans le plupart les larves ne vivent que de la substance du bois : elles font beaucoup de tort aux arbres, surtout celles des grandes especes." It is remarkable, however, that in the edition of this celebrated work, now in course of publication by Dr. Milne Edwards and M. Deshayes, while the *Leptura* and other genera are said to live on the substance of trees and the roots of living vegetables, the *Lamias* are mentioned as being found on trees and other plants. It would be interesting to ascertain what species attack particular trees, and whether the same species are found in different parts of India. As the *Adansonia* is most probably not a native of this country, it is not likely that the insect is peculiar to it, and indeed they are found on different trees in the neighbourhood, although the great softness of the wood of the Baobab tree appears to render it the favourite nursery for the young.

It is useless to repeat the old assertion of Adanson regarding the antediluvian age of this tree, to which Mr. Lyell has given a very absurd notoriety. There are some interesting remarks on this subject in the *Bombay Times* of the 8th June last, where it is stated, on the authority of Dr. Wilson, that the tree was introduced by the Portuguese from the Mozambique within the last three hundred years. This is not improbable, but it would be desirable to have some particulars as to the authority on which it is stated, as it is very likely that a tree so remarkable, and in some respects so useful, and which abounds along the shores of the Red Sea, was introduced at an earlier period. In a note accompanying the fruit of this tree received from Lieut. Blake, 7th Regt. N. I., it is mentioned that it was introduced into Mandoo, the ancient capital of Malwa, amongst the ruins of which it still flourishes, by the Khiljee race of Kings; probably therefore between

A. D. 1404, when Hoshung Shaw, the founder of the dynasty, removed the seat of government to Mandoo, and 1502 when the Kingdom began to be dismembered. It is there called the Khorosani Imlis. In Ceylon and the South of India it is known under the name of the Ethiopian Sour Gourd or Tamarind (Imli), for which last it is used as a substitute, as it was in Egypt many centuries ago.

Large *Adansonias* are found along the roads of many modern cantonments in India, where they could not have been planted 50 years ago; and the Colaba tree, although hastening to decay, has increased so rapidly during the last 18 months, as to have pushed down a wall, beyond the inner line of which it now projects considerably.

The concentric layers of this tree are very remarkable, but have no connection with the annual rings of the trees of temperate climates; yet it would be satisfactory to ascertain their real nature, and also their number, in trees the age of which can be ascertained.

Bombay, 30th June, 1842.

JOHN G. MALCOLMSON.

VII.—A valuable collection of Iron ores from Malwan and Gotney, in the Rutnagherry district, presented to the Geographical Society by C. A. Elphinstone Esq., having been arranged in the Museum of the Bombay Branch of the Royal Asiatic Society, we insert two official reports respecting the first mentioned ore, which, we believe, will be new to most of our readers, although they have already appeared in the proceedings of the Bombay Chamber of Commerce.

Extract of a letter from the Honorable the Court of Directors in the Public Department, No. 31, dated the 20th November 1839.

Forwarding a Specimen of Iron ore, found at Malwan near the Sea, in order that its properties may be ascertained by the Court.

Para 4th. We transmit as a number in the packet, a report by Dr. J. Forbes Royle, on this specimen of iron ore, which appears to be of good quality.—

Report on a specimen of iron ore from Malwan in the Southern Concan, by J. Forbes Royle, M. D.

Ores of Iron, as is well known, are extremely diffused throughout India, as in the Himalayas, in the Rajmahl Hills, in the Mysore and Carnatic, and also in the Sichel Hills, especially near Neermull.

The ore of iron which has been so extensively worked in the Porto Novo works, in the district of Salem, occurs there in low hills and in great quantities at the surface.—It is the magnetic oxide of iron combined with quartz.—The ore varies much in appearance according as the grains of quartz and oxide of iron are large or small, but the proportion in which the component parts unite is nearly uniform, that is, about 48 of quartz and 52 of oxide of iron are found in 100 parts by weight.—The oxide itself consists of 72 per cent. of iron with 28 of oxygen.—The ore is prepared by, and then separating the

quartz by washing or winnowing.—The fuel is charcoal, upon which the ore is laid, without flux, the bellows are plied for four hours when the ore is found to be reduced; it is taken out while yet red hot; it is cut through with a hatchet and sold to the blacksmiths, who forge it into bars and convert it into steel.—It is forged by repeated hammering until it forms an apparently unpromising bar of iron, but which the Hindoo converts into steel of the best quality.—To effect this, he cuts it into small pieces, of which he puts a pound more or less into a crucible, with dried leaves of the *Cassia Auriculata*, and a few green leaves of *Asclepias gigantea*, or, when this is not to be had, of the *convolvulus laurifolius*.—The object of this is to furnish carbon to the iron. The crucibles clayed over, and about 20 or 24 in number, are built up in the form of an arch in a small furnace and charcoal heaped over them.—The blast is kept up for about $2\frac{1}{2}$ hours; when cool, the crucibles are broken and the steel taken out which is of most excellent quality, but the native process is so imperfect that of 72 per cent. of which the oxide is composed only 15 per cent. of iron is obtained.

In the Sichel hills or Neermull Range where Hornblende slate occurs resting on granite or quartz rock, magnetic Iron ore is also found, from which is made the *woatz* steel employed for ages in making Damascus Sword blades. The minute scales of iron ore are diffused in a sandstone looking gneiss or micaceous schist passing by insensible degrees into Hornblende Slate.—This reduced to a sand is washed in shelving depressions, and the heavier particles thus retained are smelted with charcoal in small furnaces. The iron obtained has, according to Mr. Malcolmson, the remarkable property of being at once in a perfectly tough and malleable state.

As the accounts of these two ores are adduced for the purpose of comparison, it may also be stated for the same purpose, that almost all the celebrated iron mines of Sweden consist of common magnetic iron ore, while those of Orendal in Norway consist of the granular variety or which is commonly called iron sand. Siberia, Elba, Sweden, and the Hartz yield the most powerful magnets, which are also found in some of the mountains of Central India.

The Swedish bar iron, prepared entirely from the magnetic iron-stone of Dannemora, is smelted either alone (or mixed with limestone if it require any flux) with charcoal; and in most of the countries of Europe where charcoal is usually alone employed, the process is very similar to the Swedish.—In England less rich ores are smelted with the assistance of different fluxes, and coke for fuel; but the process is more complicated as well as the apparatus, but is made profitable from the application of science and great practical skill, as well as from the occurrence of iron ore in the vicinity of coal.

The native steel of Gisemhartz is prepared directly from the ore nearly in the same way as common bar iron—no flux of any kind is necessary, and the fuel, which is charcoal, does not on an average exceed in weight 1-5th of the ore.

The specimen of Bombay iron ore submitted for examination is

described as being found in a rocky soil in the town of Malwan in the Southern Concan. The spot is close to the sea, and the ore is dug out in quantities at a very small depth below the surface. There is another mine (formerly worked it is believed) about 4 miles north of Malwan.

This ore has been examined by Mr. Tennant, Lecturer on Mineralogy at King's College, and has been seen by professor Daniell and also by Mr. Lonsdale, Assistant Secretary of the geological society.

It is different from the Salem ore, and also from that of the Neermull Range, in as much as it is but slightly magnetic, while they like Swedish ores, are highly magnetic, and attract iron filings. This is of the kind called micaceous or specular iron ore, and generally occurs in primary rocks in Scotland, England, Norway, and especially in the Isle of Elba, also in Saxony, in Bohemia in beds of Mica Slate, at St. Gothard, &c. An ore very similar to that of Malwan occurs at Tavistock in Devonshire, and at Dunkeld in Perthshire—Mr. Tennant has specimens something like it from Brazil, in which gold is found, and which appears to be mechanically disseminated through the ore.

The specimen of ore sent consists of a very large proportion of the oxide, with reddish granular quartz (that is granular quartz coloured by iron,) disseminated through it.—The proportion cannot be ascertained without destroying the specimen, and therefore several of different degrees of richness ought to be submitted to examination in order to form a correct idea of the value of the ore. The oxide, or more properly peroxide consists of iron 69 parts, and oxygen 31, in every hundred, and is therefore very nearly as rich as the magnetic iron ore, which consists of peroxide of iron 69, and of the protoxide of iron 31 parts. It may however contain other impurities, which will be revealed to chemical analysis. It is probable that both magnetic iron ore and common specular iron ore may be found in the vicinity.

The value of this ore will depend not only upon the facility of extraction and of transport, which appears to be great, but also upon the richness of the ore, which cannot be judged of by a single hand specimen, as the best are usually selected. Information should also be communicated respecting the existence of any flux, such as limestone in its vicinity, as this might be required. Also on the comparative scarcity or abundance of fuel, of which charcoal is the most eligible for this ore.

As the Malwan iron ore most resembles that of Elba, among the ores which are worked in Europe, it may be mentioned that the process adopted somewhat resembles the Indian method, as the ore broken into small pieces is heaped upon a bed of charcoal in a very simple reverberatory furnace. When the whole has been glowing hot for some time, the pieces being now soft and at a welding heat, are, by the dexterous management of the workmen, brought in close contact with each other by means of an iron bar. They are then lightly hammered while still in the furnace, and thus the whole mass acquires sufficient compactness to be removed to the anvil without falling in pieces; it is

now hammered with a gradually increasing force, the earthy impurities are thrown off, together with the scales of black oxide, the lump is divided into pieces of a convenient size, which, by repeated heating and hammering, are drawn into bars. This iron is of excellent quality, and about 50 to 75 per cent. are obtained out of the ore, but owing to the scarcity of fuel, the ore is embarked and taken to the mainland to be smelted as it was when Strabo wrote.

Common specular iron ore generally yields an excellent malleable iron, but somewhat hard, and also a good, but not the very best, cast iron.

The second kind of specular iron ore, called more specially micaceous iron ore, is found in the general way to smelt more easily than the preceding, provided a sufficient quantity of limestone is added to it by way of flux. The iron that it affords is some times cold, short, but is well fitted for cast ware.

Report by DR. GIBSON on the Iron Ore found at Malwan.

Dapoorree, 28th November, 1840.

In obedience to the orders of Government I proceeded in October to Malwan.

Having arrived there, I made enquiry as to the seat of the Iron Ore, whereof specimens had been furnished to me 9 years ago. I found that several veins existed in the immediate neighbourhood of the Kutcherri. Not more than three of these veins were visible on the surface. Of these, two were opened by me. I found the breadth in each vein to vary from 4 to 6 inches, and from these the Ore was broken out vertically from between the rifts of the quartz rock wherein it was imbedded—the other side of the vein being often formed of sandstone.

I was unable in any case to trace a vein to a longer extent than 8 feet on the surface. Beyond that extent the rock dipped considerably below the surface, and from the want of proper mining tools I could not break up the veins to a greater depth than 18 inches. The specimens sent will many of them shew the full breadth of the vein, and will moreover be found frequently to exhibit the appearance of lumps of solid metal.

On the depth to which these veins extend will the value of the deposits depend. I could not learn that such veins were found in other parts. Analogy and presumptive evidence will lead to the belief that the veins at some distance below the surface may be at least as rich as those which appear superficially, and this belief is further strengthened by observing the immense blocks of quartz rock which abut into the sea, particularly on the side W. S. W. of the Kutcherri. These in their fractures, both horizontal and vertical, appear as if they had been jointed by Iron which had rusted away under the continued action of salt water, and therefore the probability is strengthened that at some distance from the surface, large veins of the pure ore may be found. As to the productiveness of the two veins opened by me,

I may state, that by the labour of a man and boy employed for three days, and having for tools only a pickaxe and crowbar, I raised about 1200 lbs. of good ore.

Of this quantity I deemed that about 200 lbs. might be sufficient for the experimental purposes to which it was intended to be applied by the Hon'ble the Court of Directors. A second portion of the ore I made over to the Assistant Assay Master, as that Gentleman wished to test its value for the fabrication of the finer description of tools, and I knew that no one was better able to do so.

The third and larger portion I made over to a member of the Chamber of Commerce in Bombay, who was most desirous immediately to try its value, in the home market, and to ascertain its feasibility by the great Iron Furnaces in Scotland. Along with Iron Ore specially reported on, I have also forwarded a considerable quantity of the red or Ocherous Iron Ore found in great quantities throughout the Konkan, but especially towards Malwan and Vingorla. Also two specimens of very rich Ocherous Ore found at the village of Gotney in the Rutnagherry Zillah. These latter were kindly handed to me by A. Elphinstone, Esq. The village is situated on the Ghats and at a distance from water carriage.

As to the common Red Ore of the country it seems to prevail throughout, and in the Malwan and Vingorla districts, there are many settlements of smelting establishments; but these are on a small and miserable scale, and if we can credit the returns and the appearance of the workmen, they earn but a bare subsistence. The process they follow differs in no respect from that followed in other districts, where this Ore is found, and consists in roasting, pulverising, and afterwards smelting the Ore. My main object in noticing this red ore is to point out its great abundance, the extreme facility with which it is dug out, and its proximity to the numerous navigable creeks which intersect the Konkan. An analysis of the specimens of it, which have been forwarded, will shew whether it is likely to be of any value as a dead weight for export.

The more pure and rich ore now specially under report being found so near the surface as above described, it may be asked why it has never been worked by the natives? The fact is, that it is too refractory for any heat which they can apply, and appears to be tangible only by the heat of our more powerful European furnaces.

In conclusion, I may, for the guidance of the practical Geologist, give a sketch such as my limited knowledge enables me to do, of the Geological features of the district in which this ore is found. The surface presents a wide table of laterite formation, in some situations level with the sea, and in others swelling into small rounded hills generally thickly wooded, or into bare elevated plains nearly destitute of soil.

Below this lateritious crust appear in some situations, or in the Ramghur district, immense veins of Talc associated with and running into quartz rock, and having an angle upwards of 45° with the surface of the ground and a westerly dip.

This Talc is excavated by the people, and made up or rather shaped out into Cooking Pots, Eating Dishes, &c., and in this way a trifling traffic is carried on—such vessels are valuable to the Chemists, as they are said to be capable of resisting the most intense heat.

I find on referring to Captain Herbert's survey of the mineral productions of the Himalaya, that a trade is carried on in vessels made of this stone to the extent of 40,000 piastres, equal to about 81,000 Rupees. Further Captain Herbert states, that in the Himalaya, as well as in Ireland, Talc, when existing along with primary rocks, has been found to be associated with Copper Ore.

3. In situations where the overlying laterite had from some local cause (qu: the prevalence of lime?) been completely disintegrated into a pastry red clay—below this, I remarked extensive beds of white and soft pipe clay looking substance, originating possibly from the extensive decomposition of quartz rock. I have not yet leisure to examine this substance, nor can I yet say whether it can be turned to any account in the arts—but specimens of this and of all the other minerals found in that part of the country have been sent to Dr. Heddle for the museum of the Geographical Society. Sandstone, I have not observed in the district, save in detached masses associated with quartz rock and bright Iron ore.

The lowest formation visible is this quartz rock very hard, and in many places curiously mottled by the outlines of what seem at one time to have been solid nodules imbedded in the more liquid surrounding rock, but are now of one substance with it, varying from it only in colour.

This quartz rock is remarked by its nearly vertical forms in the beds of the deeper rivers, and appearing extensively below the laterite on the sea shore.

On the whole, the district seems well worthy an attentive examination by the Geologist.

As the nature of my duties afforded me an eligible opportunity for examining the Teak plantations of the Southern Konkan, I deemed that I should be acting in accordance to the wishes of Government by visiting these, and for the inspection of such portions of the said Plantations, as I could not conveniently visit in person, I detached a trust-worthy Peon of the Garden's Establishment, accompanied by a Karkoon, whom I had (with permission of Government) hired for two months for the purpose of assisting in the examination of alluvial soils, and as I had no further use for his services in that branch of enquiry, I turned them to account in the examinations of plantations. As both this man and the Peon had been employed with me in the Northern Konkan and Petti country, on similar duty, they had some experience on the subject—the results of the Examination made, and observations arising out of it, will be found in Report No. 2.

(Signed) ALEXANDER GIBSON,
Supt. Bot. Garden.

METEOROLOGICAL OBSERVATIONS, BOMBAY OBSERVATORY.

21ST OCTOBER, 1841.

Bombay mean time	Hour.	Barome- ter.	Thermom.		Thermom.		Corrected Barome- ter.	Winds	REMARKS.
			Attd.	Detd.	Dry.	Wet.			
6	A. M.	29.870	79.0	78.6	79.0	78.0	29.730	S. by W.	Sky clear with cirrostratus.
7	..	.876	79.0	79.0	79.4	77.0	730	S. E.	
8	..	.900	80.0	80.2	80.2	77.0	.757		
9	..	.904	81.3	81.4	81.4	77.0	.767		
9½	..	.900	82.0	82.2	82.2	77.0	.751		
10	..	.900	83.0	82.4	82.8	75.0	.748	S. E.	
10½	..	.894	83.0	83.6	83.6	75.2	.742		
11	..	.870	84.8	84.6	84.5	76.0	.719	S. W.	
0	..	.850	86.2	86.0	86.0	76.8	.689		
1	P. M.	.826	87.2	87.0	87.0	78.8	.662		
2	..	.818	88.2	87.4	87.4	78.0	.651	W. S.	Sky clear with cumuli stratus.
2½	..	.818	88.2	87.3	87.4	77.8	.651		
3	..	.812	88.0	86.8	87.2	78.0	.646	W.	
3½	..	.808	88.0	86.0	86.6	77.0	.642	W. N.	
4	..	.808	87.5	85.5	85.8	77.0	.643		
4½	..	.802	86.8	84.8	85.2	76.9	.639		
5	..	.816	86.0	84.2	84.6	76.5	.635		
5½	..	.824	85.0	83.4	83.8	76.5	.666		
6	..	.832	84.0	82.2	83.2	76.5	.667	.....	Sky clear. Lightning in the E. [6h. 12m.
7	..	.850	82.6	81.8	82.2	76.0	.698	.....	" " { in the N. E. 6h. 22m.
8	..	.878	82.2	81.6	82.2	76.0	.728	.....	in the E. { in the W. 7h. 25m.
9	..	.872	82.0	81.6	82.3	77.0	.723	Calm... ..	Clear. [9h. 30m.
9½	..	.880	82.0	81.6	82.3	77.0	.731	.....	Clear. Lightning in the N. E.
10	..	.896	82.0	81.5	81.8	77.0	.747	.....	Sky clear.
10½	..	.864	81.5	81.2	81.6	76.5	.736	.....	Sky clear. Lightning in the E.
11	..	.890	81.2	81.2	81.6	78.0	.744	.....
0	..	.880	81.0	80.6	81.2	76.8	.734	.....	Cumulus in the N. and E. Light-
1	A. M.	.872	80.5	80.4	80.6	76.0	.737	.....	[ning in the E.
2	..	.850	80.5	80.0	80.4	76.0	.708	Calm... ..	
2½	..	.864	80.2	79.8	80.4	76.0	.740		
3	..	.882	80.0	79.4	80.2	75.8	.739		
3½	..	.884	80.0	79.3	80.0	75.8	.741		
4	..	.849	79.8	79.1	80.0	75.3	.706		
4½	..	.840	79.8	79.0	79.8	75.3	.697		
5	..	.846	79.5	78.8	78.7	75.0	.704	.....	Cumulus without Lightning.
5½	..	.844	79.5	78.8	79.6	76.0	.702		

22ND NOVEMBER, 1841.

Hour.	Bombay mean time	Barome- ter.	Thermometer.		Thermom.		Corrected Barome- ter.	Wind.	REMARKS.
			Attad.	Detad.	Dry.	Wet.			
A. M.	6	29.930	76.0	74.4	73.6	71.0	29.799	N. E.	Clear in the zenith with cumuli
..	7	956	75.0	73.5	73.4	70.0	828	.....	Cumuli. [in the horizon.
..	8	980	75.8	75.4	75.0	70.8	849	.....	Cumuli in N. E. passing to the
..	9	992	76.8	77.0	77.2	71.0	858	E.	[W.
..	9½	989	76.0				858	.....	Cumuli all round the horizon.
..	10	988	78.2	78.3	78.0	72.1	850	.....	[Mass in the west passing to E.
..	10½	989	79.0	79.2	79.8	72.6	849	.....	Cumuli in the horizon. Masses in
..	11	980	79.8	80.2	80.8	72.8	837	N. W.	" mass in the N. & E. [the N.
..	0	950	81.0	81.3	81.2	72.0	804	.....	" masses in the N. and S. E.
P. M.	1	920	81.5	81.0	81.6	71.5	773	.....
..	2	888	81.9	81.1	81.8	71.4	739	.....	Large cumuli in the N. E. & S.
..	2½	886	81.0	81.2	81.2	71.6	737	.....
..	3	846	81.6	80.9	81.0	72.0	738	.....	A few large cumuli in the N. S.
..	3½	884	81.6	80.5	81.0	71.6	736	.....	[and E.
..	4	882	81.4	80.7	80.8	71.0	733	.....
..	4½	882	81.0	80.4	80.6	70.2	732	.....	Cumuli in the East.
..	5	888	80.8	80.4	80.0	70.8	738	.....	" in the West.
..	5½	900	80.1	79.4	79.1	71.0	757	.....	" in the E. and W. Zenith clear.
..	6	900	80.0	79.2	79.0	70.8	757	N.	
..	7	922	79.2	78.6	78.6	71.0	781	.....	Sky clear.
..	8	935	79.0	78.4	78.4	71.5	796	.....
..	9	950	78.6	78.0	77.4	72.5	811	N. E.	
..	9½	950	78.6	77.8	77.2	71.8	811	.....
..	10	950	78.1	77.2	76.4	70.5	813	.....
..	10½	950	78.0	76.8	76.2	70.8	813	.....
..	11	948	77.6	76.8	76.2	71.4	814	.....	A few cirri.
..	0	946	77.5	76.7	76.2	71.8	812	.....
A. M.	1	920	77.3	76.6	76.0	71.0	795	.....	Sky clear.
..	2	916	77.0	76.5	76.0	70.8	782	.....
..	2½	916	77.0	76.3	76.0	70.8	782	.....
..	3	924	76.8	76.0	76.0	70.8	796	.....
..	3½	920	76.5	76.0	75.6	71.8	787	.....
..	4	920	76.4	76.0	75.5	71.6	786	.....
..	4½	918	76.4	76.0	75.3	71.5	786	.....
..	5	924	76.4	76.0	75.2	72.0	792	.....	Cirrus with cumuli in the E.
..	5½	940	76.2	75.8	75.2	71.8	808	.....

21st DECEMBER, 1841.

Hour.	Barome- ter.	Thermom.		Diff.	Attd. Thermo.	Daid. Therm.	REMARKS.
		Dry.	Wet.				
0	29.887	72.2	66.5	5.7	73.6	72.5	
1	.874	71.6	67.0	4.6	73.2	72.2	
2	.868	71.0	67.0	4.0	73.0	71.7	
2½	.868	71.0	66.6	4.4	73.0	71.6	
3	.868	71.0	66.6	4.4	73.2	71.6	
3½	.870	71.5	65.5	6.0	73.8	71.9	
4	.864	71.8	66.5	5.3	73.8	72.0	
4½	.872	71.2	65.8	5.4	73.5	71.8	
5		70.3	65.0	5.3	73.0	70.7	
5½	.880	70.3	65.0	5.3	72.0	70.7	
6	.896	69.7	65.0	4.7	71.7	70.0	Clear.
7	.908	69.0	62.0	7.0	70.7	69.0	
8	.936	71.4	63.0	6.4	71.0	71.0	Cumulus in the West.
9	.974	74.3	66.0	8.3	73.2	74.5	
9½	.984	75.2	67.0	8.2	74.0	75.3	Clear with cirri and cum.
10	.974	76.0	67.0	9.0	75.0	76.4	
10½	.956	76.7	70.0	6.7	76.0	77.0	
11	.950	76.7	70.0	6.7	76.2	77.0	
0	.920	77.0	70.0	7.0	77.0	77.0	Clear with cum. N. W.
1	.894	77.0	68.8	8.2	77.2	77.0	
2	.872	77.5	70.0	7.5	78.0	77.7	Clear.
2½	.872	78.0	69.8	8.2	78.4	77.8	
3	.872	78.5	70.0	8.5	79.0	78.0	
3½	.872	78.6	69.3	9.3	79.0	78.0	
4	.878	78.6	69.3	9.3	79.0	78.0	
4½	.880	78.0	68.0	10.0	79.0	77.5	Fresh breeze, Cirri E.
5	.880	77.0	68.5	8.5	78.5	77.3	Clear.
5½							
6	.890	76.0	68.8	7.2	77.0	76.2	
7	.920	75.6	69.0	6.6	76.1	75.7	
8	.940	75.1	69.0	6.1	75.9	75.4	
9	.940	74.4	69.6	4.8	75.5	75.4	
9½	.940	73.8	68.0	5.8	75.0	74.6	
10	.938	73.0	67.0	6.0	74.6	74.9	
10½	.936	72.6	66.9	6.6	74.2	73.2	
11	.926	72.0	67.4	4.6	73.5	72.5	

* This last column contains the observations of the standard Thermometer. Sky clear.

Nabone inscription. see art. I.

G. L. Jacob & N. L. Westergaard.

Handwritten musical notation on a staff, including notes, rests, and clefs, running vertically along the right edge of the page.

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[illegible]

the north.

*On a small stone to the east
of the larger*

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32 feet by N.E. Westergaard.

Digitized by Google

16

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27246

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45300

46303

the north.

On a small stone to the east
of the larger
ရွှေကျိုက်ကုန်း

ဗုဒ္ဓဗိမ္ဗာန်: ...

နန်းသစ်ဝင်လမ်းမှ မြောက်ဗုဒ္ဓဗိမ္ဗာန် ...

ပုဏ္ဏားလေး၊ နန်းသစ်ဝင်လမ်း ...

ပုဂ္ဂိုလ်: အုပ်ချုပ်သူ ...

ဗုဒ္ဓဗိမ္ဗာန်: နန်းသစ်ဝင်လမ်းမှ ...

... နန်းသစ်ဝင်လမ်းမှ ...

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Dr. Jacob & H.L. Westergaard.

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JOURNAL
OF THE
BOMBAY
BRANCH ROYAL ASIATIC SOCIETY.

APRIL—1842.

ART. I.—*Girnar Inscriptions.*

THE following extract of a letter from Captain JACOB, Political Agent Katyawar, addressed to the Secretary, will explain the reasons for republishing those of these inscriptions which formerly appeared in the *Journal of the Asiatic Society of Bengal* ;—

“ MY DEAR SIR.

“ *Rajcote, 4th July, 1842.*

“ I enclose the Geernar Rock Inscriptions, most carefully compared, the joint labour of Mr. WESTERGARD, a young Brahman protégé of mine, and myself. They may be depended on as perfectly accurate. Mr. WESTERGARD will be in Bombay about the time you receive these, if not before, and has kindly undertaken to correct the proof sheets. I should be very glad to see our Society the first to give them to the world in their perfect state ;—perfect only as far as the Goths and Vandals of the country have left them, of course I mean.”

ART. II.—*Inscription copied from an ancient Tablet, found at*
with the same in modern characters, accom-
and with some remarks, by the REV D.

by before the Society, with a
of the greater part, was

received some time ago by L. R. REID, Esq., Chief Secretary to Government, from Major WILKINSON, Resident at Nagpore, and by the former gentleman committed to me to decypher, and translate.

It consists of two parts, the former containing seventeen lines, and the latter three. It is the former only that I have decyphered and translated. There are in it a few breaks at the ends of some of the lines ; but as they are small, it is not difficult from the connexion to make out the sense. The latter has two considerable *lacunæ* in the middle of two consecutive lines ; and besides from what I made out of it, consisting apparently of nothing but an eulogy of Shiva, I did not deem it worthy of the examination it would have required to make anything like a full translation. The character in which it is written seems about a couple of centuries more modern than that of the former inscription, which is intrinsically of considerable importance, as affording direct proof that up to a period comparatively recent, the Buddhist ascendancy was maintained in the East of India.

The tablet from which the transcript is taken, was probably originally attached to a building destined for Buddhist ascetics by a Sovereign of that faith. The country over which the Sovereign ruled is called *Urisi*,* most probably Orissa, which is full of Buddhist antiquities, and where a powerful dynasty reigned in ancient times. The Sovereigns whose names are mentioned in this Inscription, are *Surya-Ghosha*, *Kutsa*, *Udayana*, and *Bhava-Deva*. Although none of these kings are mentioned in the list given by STIRLING in his account of Cuttack, yet he omits, as he tells us, thirty-two kings of the *Kesari* race ; and these may yet be found among them. It is also to be observed, that his principal authority—the record kept in the temple of *Jagannath*—was only commenced in the eleventh century, and that it says nothing of any of the previous sovereigns being of a different religion, though from this inscription, written by a Brahman, it evidently appears that the three last at least of the above-mentioned kings were Buddhists ; and that in the temple record it is expressly said, that the last of the *Kesari* race of kings was driven from his throne on account of a dispute with a Brahman. Most likely, then, all the previous Sovereigns were Buddhists, and with a change of dynasty there was also a change of religion, and a persecution of those who adhered to the ancient faith, as disaffected subjects of the new sovereign. Probably, also, most of

* May not this mean "the many sages?"

those splendid temples, for which Orissa is famed, were reared by these sovereigns. The famous Black Pagoda at least must have been so, as the principal figure above the principal gateway, as drawn in the *Asiatic Researches*, vol. xv., p. 330, is a Buddha: nine Buddhist sages are ranged under it, and nine more on each side of the doorway. In STIRLING's account, these are said to be the nine planets. It may be so, but then they were so represented by Buddhists; for the Braminical figures to represent the planets are quite different. The modern Hindu sovereigns of the Ganga race to whom these works are ascribed, probably only repaired them, and converted them from Buddhist to Braminical temples,—a thing that has happened to many Jain temples in Gujarāt and Central India,—to one only a few years ago.

The Inscription is written in lines of modulated Sanscrit prose, by a Brahman; so that it would appear that even then, by their astrological knowledge and usefulness in transacting business, the Brahmans were climbing the ladder of that ascendancy to which, in a century or two after, they attained.

The date of the Inscription is unfortunately not given in figures, but the two words *Shivo Jvālā*, which follow immediately ऋ, the abbreviation for Samvat, I have no doubt contain the date, which is therefore 711, or A. D. 657.* This conclusion also harmonizes both with the style of the letters, as compared with those of an earlier and later date in PRINSEP's Alphabets, and also with the state of Eastern India, as described by a Chinese traveller of that age, as so well illustrated by Colonel SYKES in his late paper on the state of Ancient India.

Although the general tenor of the Inscription is obvious and determinate, several minor difficulties have presented themselves, in executing the translation. Not having the original to refer to, I have not taken any liberty with the transcript, nor even with the Devanāgarī substitutes, except in one or two obvious instances, where there could scarcely be any doubt that one similar letter had been put by mistake for another. In other instances, where no sense seemed to result from the letters as they stood, I have made the best conjecture I could in forming the translation, leaving the Devanāgarī unchanged.

* Shivo is plain, and Jvala in the Kosha is synonymous with Agnījivha; and in the Smṛiti Agni is said to be Saptājivbah; also in Rīg-Veda I. Ashtaka 8. Adhyaya 26. Varga.

These difficulties have, fortunately, relation only to some words in profusion of epithets heaped upon gods, and heroes, and not to general scope, or to the important points on which I have based my remarks relative to its Buddhistical character.

ADORATION TO THE TRIAD.

1. Thou, the god of surpassing wisdom, the possessor of the antelope-ruling (moon,) the bearer of the terrible barbed trident, the invincible sender of victory, the vanquisher of armies, comest for our salvation, seated in thy easy chariot, conquering and slaying (our foes); often celebrated as our deliverer, thou always present thyself full of good qualities. Now let the goddess held in his hand and him the holder of the goddess of prosperity, the father distinguished by his crest, the destroyer of pain, the fascinator of the world preserve you.
2. May he preserve you, who is lifeless, yet living; confined, yet moving every where; the elementary principle of the world, yet being of a tranquil disposition; visible, yet altogether invisible; who delivers the world from fear, and yet is the cause of fear; who receives without emotion the intense fire of Cupid's radiant shafts, and yet is the father and mother of cities and their inhabitants; whose measure has been ascertained, and yet who is immeasurable. Let him who is the darkening waterless fog, and at the same time the thunderbolt-irradiated water-distilling cloud, preserve all in every place.
3. The Sovereign Lord of Urîsi (Orissa) crowned with a tiara and garlands, adorned with rubies, and from uninterrupted ever-increasing acts of merit incapable of falling into sin, was SRI SURYA GHOSHA, who, like the sun, embraced all in his one circle, virtuous and holy, famed throughout the world, active and truthful.
4. Armed with a sword and mace, his rapid march humbled the earth. Greatly prospering, and served by the wives of his enemies, resplendent with ethereal radiance, he diffused a dazzling lustre in every part of the world. Surrounded with heroes, praised by the dark goddess as endued with the mind of Bhishma, and himself distinguished for a magnitude equal to that of Bhîma and Mahodara, illustrious and prospering, he took captive all he met.

5. At length he, the refuge of the good and bad, having begged permission to attend at the feet of the divinity, obtained freedom from worldly existence in the highest heavens ; and in addition, perfect union with the Deity.

6. As an overjoyed hero standing behind the flash of his sword, was **LAKSHMI**, whose most delightful mansion was the breast of the world-sustaining lord, and into whose pure ocean fame entered as naturally as a bullock the plough.

7. With the weapon that cleaves the temples of the drum-bearing furious elephant, she in one open, breath-dividing battle-field, after another, with her well-sharpened keen-edged sword coursed during night, hither and thither like a lion, who with his claws procures what satisfies his appetite. By her heroism a heroine, and connected with a heroic family, she attaches herself to such, as the brilliant safflower to the sides of the lakes.

8. Her beloved son having died by falling from a lofty eminence in the place where he resided, **KURSA**,—a most excellent person, a very Indra,—after passing through many births in which he performed mighty and famous actions, became lord of the earth. But the love of the Creator, and devotion to the pervading energy of the universe, converted him, and made him regardless of the business of the world, and a man wholly intellectual.

9. Having, therefore, seen that the only way to lay hold on the unfading star of life was by crossing the ocean of this world, he, as an ascetic (*Yati*.) went over the awfully resplendent, invincible, Himalayan mountains, to the sage's (*Muni's*) established seat.

10. After having for a long time journeyed patiently, enduring privations, the associate of bears, and ravenous beasts, the lord of the earth married one of the *Pandava* family, and a child called **UDAYANA** being born to him, he had the happiness of possessing a son.

11. When he had obtained union in the heavenly mansions, (his son,) the royal holder of the divine treasures, who hurled afar the foe-terrifying discus, who through fear of the destroying god and infernal pains restrained his own spirit, who cherished his own powerful host, and destroyed the multitudes of his foes, and every where inspired silence, became the incarnate deity who sustained the weight of the earth.

12. The settler of his subjects, the conferrer of merit, the deity that carries on the affairs of the world, such was BHAVA-DEVA his fourth son.

13. He, marching forth armed with a dagger, and weapon resembling the nails of the hand, went into the field of battle, tearing his foes to pieces, and like a roaring lion destroying his enemies, those furious elephants.

14. How should it be that through pain the serpent that bears the world should cast its earthly load from its head, and that its forehead should no more be able to perform its appointed task, and to keep the world steady? No more could the king do so, who held the place of the pole, to which the yoke is attached, was a mountain to sustain his subjects.

15. Without levying any capitation tax, or traversing the provinces, distinguished as the unexampled cherisher of the earth, he was a very Vishnu (husband of Lakshmi.) With his friend, the beloved Girimukhe, dear to his heart, and ever agreeable, by whom as by fresh flowers the universe [was perfumed,] the sovereign of the world, the supreme king, having adopted the path of religion as an ascetic (Yati,) wandered through Turu,* exerting his mind in the study of holy science, rooting out his vices, and every day resembling the full moon. His undecayed body like a heap of yellow gold, at last assumed a dark red colour, till all the hateful fuel of passion being consumed, he became wholly glorious for the welfare of men.

16. Fulfilling all the desires [of the sages], every where raining down blessings, no stain was anywhere to be found, nor fear of calamity.

17. Distinguished for his beauty among the people, pleasing the eye, in gifts excelling Karna, and in wisdom Brihaspati, speaking mildly even to his enemies, celebrated in the Jagati measure, beloved, and even named blessed.

18. By him the naked ascetics (Nagnagana) [were supported.] Whose disposition ever sweet, increased to such a degree as not only to refuse ordering the destruction of human life, but constantly to

* This must be Turan or Tartary, and since his grandfather crossed the Himalayas, he probably did so too. Perhaps Tibet might be included under this name, and a visit to the Grand Lama one object of the pilgrimage.

sustain himself by water, so that he might be considered as attaining the supremacy of the serpent race (who live on water,) though not like them double tongued. He was at the same time fortunate, and a rewarder with the five different jewels of his victorious troops.

¶ 19. He possessed the depth of the sea, and the stability of things on the dry land, and of the human body sustained by its seven members, the benevolence of descendant of the Sun (Karna,) so that by merely presenting themselves suitors, ever obtained their request. His fame and majesty were equal to those of Raghu. Whenever he, with his warriors, would go into the battle against towers, and horses, he inspired his foes with anxiety, whereby war-sprung voracious indifference to life seized the far-famed goddess Durga.

20. By whomsoever this his land, and the house of the sage (Sugata) shall be protected by virtuous and strenuous efforts, to him let there never be any danger of falling into the regions of Pluto (Yama,) inhabited by venomous serpents; but on the contrary, let his delightful habitation be where are collected those distinguished for their knowledge of the Veda, and for acquaintance with all the modes of chanting its sacred verses. Let it be peaceful and honored for sacred science. And even should he be born in a low and vicious family, let him, when sufficiently old, become a devotee (Brahmachári,) and awakened to devotional exercises take refuge in the most ancient of beings. The virtuous (sovereign) having become a perfect Buddhist sage (Boddhisatva,) obtained renovation.

21. This is the much ornamented spot adorned with lakes, wells, garden lands, halls, small dwellings, and sacred trees with numberless suckers, surpassing all former splendour,—a delightful cheering place, friendly to man, flowing with the water of life. Let this abode of the illustrious conqueror of the passions (Jina) remain ever glorious.

This eulogy, composed in excellent rhetoric measures, desired by his family, his fortunate dependants and friends, was composed by

Bhâskar Bhatta in the year (Shivo Jvâlá) 711. ॐ ॐ ॐ Thus [de-

parted he] who was nothing less than the friend of all (Vishnu,) contemplating the goddess of eloquence and prosperity, as she resembled a drop of pure water, resting on the leaf of a lotus; and at the same time guarding the life of man.

ART. III.—*A Collection of words from the language of the Todas, Chief Tribe on the Nilgiri Hills. Communicated to the Society by the Rev. Dr. STEVENSON.*

THE following collection of words was made by the Rev. Mr. C. J. Stevenson, of the Mangalore German Mission, while residing for a season on the Nilgiris. The comparison with the other languages of the Indian Peninsula, and with the Sanscrit, was made by the Rev. Mr. Weißenbach, of the same Mission, and by the help of Meninski, Klaproth's *Asiatic Polyglottica*, the *Journal of the Asiatic Society of Bengal*, and *Indo-European Dictionaries*, I have carried the comparison partially to the other Indian languages, and even to languages beyond the confines of India. The general results of these comparisons are the following :—

1. The language of the Todas is a sixth kindred Indian Peninsula language; the Telugu, Tâmil, Carnâtica, Malayâlim, and Tulu being the other five. All of these languages have but one origin; and the intimate connection both in grammatical construction, and in the vocabularies that are used, runs through them all. More especially the points to which I adverted in a former paper, the use of *n* to mark the genitive singular, of *k* to mark the dative, of *t* or *d* to characterize frequently the past tense of verbs are all found in the language of the Todas.*

2. The language of the Todas has a strong resemblance to the language of other Indian hill tribes; especially to that of the Brâhmoes, a tribe inhabiting the mountains of Scinde, and like the Todas, men of fine features and having an evidently Caucasian cast of countenance, so much so that the Todas have been mistaken for a Colony of Greeks, and the Brâhmoes for one of Jews.

3. Beyond the boundaries of India the Turkish, Siberian and Persian languages furnish the greatest number of analogous words, especially of words expressive of the common relations of life, and denoting objects with which men in an imperfect state of civilization are acquainted.

4. Words derived from the Sanscrit seem to have been communicated to the Todas by the inhabitants of the neighbouring plains, and are usually such as express ideas connected with a high

* I here take occasion to correct an error in my *Essay on the language of the Aborigines of Hindustan*, published in the last No. of the *Journal*. The Tâmil under the 10th head is said to differ from the other languages of India in not using the nominative for the accusative, whereas it agrees with them.

state of civilization, or are the names of objects naturally foreign to their mountains.

5. Several words are found almost entirely the same as those expressive of the same idea in the Mongolian and Celtic tongues ;—languages spoken by tribes so different, the one in physical structure, and the other in geographical location ; and the instances to which I refer are such as could not have been the result of accident, but must have arisen from a connection at some previous period of their history. Thus, the word *Gurri* for sheep, which in Canarese is *Kurri*, is almost the same as the Irish *Kaora*, of the same signification. *Arl*, a star, approaches very near to the Irish *Reall* ; *Tata*, fire, to the Celtic *Tan* ;* *Tora*, food, to the Celtic *Torih*, a loaf ; and again *Kol*, the foot, has a strong resemblance to the Canton Chinese *Koh* ; and *Noi*, a dog, to the Mongolian *Nokoi* ; and *Mata*, the head, to the Tibetan *Mago* ; and *Anaga*, the face, to the Tibetan *Ngo*.

There are also strong traces of a remote connection with the Semitic languages. Thus, the pronoun *An* for I, is almost the *Ani* of the Hebrew, and *Ana*, of the allied languages. *Duru*, to burn, or as in Canarese *Uriu*, is not only nearly the *Uro* of the Latins, but also the Hebrew *aur*. *Mata*, the head, is nearly the Arabic *ماطس* maatas the face. Owing to the want of types and compositors for the Southern Indian languages, it has been found impossible to express the words of those languages in their native characters. Mr. Mæghlin's scheme for their expression in Roman and Greek letters precedes his catalogue of words. It is from his MS. that all that follows, not included in crotchets, relative to those languages, and the Sanscrit, has been taken.

NOTES RELATIVE TO THE ORTHOGRAPHY.

1. The expression of Sanscrit letters in English characters [being nearly conformed to the system of Sir William Jones] will, it is hoped, be intelligible without explanation. The Linguals [or as they are called by the native grammarians Cerebrals,] are expressed by Italics, likewise the hard l (*ळ* of the Balbodh.)

2. Three Greek letters have been used to express three letters that are peculiar to the Southern dialects, and chiefly to the Tamil. They are (1) a very soft sound between *l* and *r*, the final of the word *Tami* λ.

* *Beta*, a mountain to *Ben* ; the *f* in this and in the word for fire being converted in the Celtic to its nasal *u*. The word *Meya*, a son, especially in the Canarese form *Maga*, is but a small remove from the Gaelic *mak*. Surely after this the McPhersons and the McGregors of our Highland glens need not hesitate to claim as Scotch cousins, the inhabitants of the Indian Peninsula.

This is expressed by λ. [It corresponds somewhat to the French j and Persian ج] (2) a nasal peculiar to the Tamil language, nearest to, but not identical with, the *dental* nasal of the Devanagari system. It is expressed by ν the Greek η [it is almost the English n.] (3) a very harsh r, expressed by ϣ the Greek ρ. This letter produces in the Tamil and Malayalam languages two compound sounds; the one a double t with a slight r, (ttra, as it were, but very softly.) This is expressed by ττ, a double Greek τ. The other used in the Malayalam, is an nd, likewise with a scarcely perceptible shade of r, (ndra.) This is here written νρ for instance yevpu (Sanskrit द्रति)—yendru.

NUMERALS.

	TODA.	TAMIL.	CARNATAKA.	MALAYALAA.	TULU.	VARIOUS AND REMARKS.
1	Vodda	Oppa	Ondu	Onnu	Onji	Lat. unus. <i>Tungusian</i>
2	Yeda	Irundu	Yersadu	Rendu	Yeradu	Mukom. <i>Koibal</i> , unem
3	Mada	Muvva	Muru	Muna	Vulg randu	<i>Tungusian</i> , djuhr.
4	Nank	Navku	Nalku	Nalu	Muji	<i>Armenian</i> , yergu.
5	Khu	Eintu; vulg. anchu	Eidu	Anchu	Nalu	<i>Brakut</i> , irat.
6	A'ra	A'pu	Aru	A'pu	Eini	<i>Brahui</i> , musti.
7	Yo	Yexu	Yedu	Yepu	Aji	<i>Can. Chinese</i> ing.
8	Yeta	Yettu	Yentu	Yettu	Yetu	{ <i>Turkish</i> , alti. <i>Yemese</i>
9	Yenbot	O-batu	Ombattu	Ombatu	Yenumo	{ <i>ram</i> , agam.
10	Pota	Pattu	Ancient pattu	Pattu	Ormo	<i>Armenian</i> , yeotu.
11	Ponnoda	Pat-in-onru	Hannodu	Pat-in-onnu	Pattu	<i>Armenian</i> , ut. <i>Lat.</i> oc.
12	Ponneda	Pannirandu	Hannerdu	Pantrandu	Paduradu	{ <i>to. Eng.</i> 8 Sans. ashta.
13	Pomnu	Patin Muvu	Hadimbru	Patimuuna	Padimuji	This means 1 less than 10.
14	Panka	Patinanku	Hadinalku	Patinalu	Padunelu	<i>Tibetan</i> , bachu. bet.
15	Pochi	Patinanchu	Hadineidu	Patinanchu	Paduneinu	<i>Can. Chin.</i> nat.
16	Para	Pat-in-apu	Had-in-aru	Pat-in-apu	Pad-un-aji	This is 10 and 1.
17	Pa, paya	Pat-in-eyu	Had-in-elu	Pat-in-eyu	Pad-un-ela	The Toda though short in
18	Pota	Pat-in-etu	Had-in-etu	Pat-in-etu	Pad-un-ela	not less regular: pank :
19	Ponabota	Patinbatsu	Hattombhattu	Pattombata	Padun-ene	po-ank. pochi : po-ichi
20	Yepota	Irupatu	Ippatu	Irvata	Padunorombo	Para=po-ara.
30	Mupota	Muppata	Minatu	Muppata	Irvo	Paya=po-yo.
40	Nalputa	Nagpatu	Nalvatta	Nalvata	Muppo	Pota=po-yeta.
50	Yebota	Eimbatu	Eivattu	Fimbata	Narpo	Ponabota=poyonabota.
60	Arota	Apupatu	A'rattu	A'vuvata	Ajivo	
70	Yelota	Yepupatu	Yevattu	Yevuvata	Yelpo	
80	Yevota	Yenpatu	Yembattu	Yembata	Yenapo	
90	Vevabota	Tonnapu	Tombattu	Nonnupa	Sonupo	
100	Nuru	Nupu	Nuru	Tupa	Nudu	

NOTE.—The idea of ninety seems to have been "remaining below a hundred." In Tamil and Malayalam the word for 900 is *navattam*, "wanting (a hundred) to a thousand." The strange form in the Toda may be explained from the word *vet* for stay behind, i. e. 90 is the 10 that has not yet reached 100.

II.—NOUNS OF RELATIONSHIP.

1.—Aph, mother; *Tulu* appe; *Georgian* deda.

2.—En, father; *Tulu* amme; *Himalayan Linba* amba; *Mongolian* ama; *Georgian* mama.

N. B. In many Indian languages *Appa* means father, and *Ama* mother. So that in the Toda and Tulu languages the meanings are reversed. The Georgian has a similar reversing of the common meanings of *Dádá* and *Mámá*.

3.—Olera, a husband; *Canarese* alu, a man; *Malayala*, ula, the head of a family; *Turkish* er, a man; *Arabic* ولي, wali, a friend, a prince; *Yenneseyan** alut, a wife.

4.—Dujma, a wife; *Yenneseyan* dachaim; *Tibetan* chhumgma.

5.—Ono, elder brother; *Can.* anna; *Tam.* annen; *Motoriach†* or-gaeda, brother; *Lepcha‡* anun.

6.—Okena, elder sister; *Can.* akka; *Tulu* akke; *Marattha* aka; *Tungusian* aki, a brother; oki, a sister; *Mongolian* egechi; *Lepcha* anon, eldest sister.

7.—Uraveda, younger brother; *Tam.* uria, belonging to.

8.—Oraveda, younger sister; *Tam.* uravor, related persons; *Arab.*

اروم arum, origin, stock; *Motorisch* hedia, a sister.

9.—Meya, male child; *Can.* maga, a son; *Mal.* magan; *Tulu* mage; *Lat.* mas, a male; *Gaelic*, mak, a son; *Tibetan* miha, little man, and maga, son-in-law; *Brahui* mar, a son.

10.—Kuya, female child; *Mal.* kunyu [*Sans.* कन्या kanya.]

11.—Amona, mother's brother; *Mal.* ammon; *Telinga* mena-mama; *Marathi*, mama; *Arabic*, ام umm, a mother; *Lepcha*, anen.

12.—Mami, elder brother's wife; *Can.* mami; *Mar.* mami; *Tib.* Rmomo.

III.—PARTS OF THE BODY.

1.—Boi, mouth; *Can.* baí; *Tam.* vai; *Persian* بوز poz; *French*, bouche; *Pers.* بوس bosí, kissing; *Tib.* hō, a kiss; *Bráhuí*, ba, the lip.

2.—Kona, eye; *Can.* kannu; *Tam.* kan; *Bráhuí* khan.

* A name for several languages of Siberian tribes living on the Yennesey river.

† A Siberian language.

‡ A Himalayan language.

- 3.—Kommunu, face; *Mal.* koma, cheek.
- 4.—Anaga, cheek; *Mal.* annakka, palate and inside of the cheek; *Tib.* ngo, the face.
- 5.—Moi, whiskers; *Mal.* misha; *Mar.* mishi; *Tibetan* sma-ra; *Pers.* موی moy, hair.
- 6.—Mebhoi, upper lip; *Can.* melvai; (lit. upper mouth.)
- 7.—Kiboi, under lip; (the *Tam.* kil, *Can.* kel, &c. means under.)
- 8.—Kavi, kaphi, ear; *Tam.* kevi; *Can.* kivi; *Bráhui* khaff; *Mar.* and *Hind.* kan; *Sans.* कर्ण karna.
- 9.—Konagoda, eye brows; (i. e. kona, eye, and goda, a cover.)
- 10.—Kei, hand, (same in *Can.*, *Tamil*, &c.) *Pers.* and *Arab.* كف kef; *Sans.* कर kara; *Yenneseyan* kehar; *Siberian*, ki.
- 11.—Beveda, thumb; *Tam.* perviral, (the great finger); in *Tel.* velu is finger, hence veda; *Can.* beralu; *Mar.* peren, joint of a finger.
- 12.—Koveda, konveda, second finger, (lit. eye finger; and in *Tam.* kanirral, i. e. as in German, pointing finger.)
- 13.—Polveda, third finger; (perhaps snake finger, *Tam.* pambuveda.)
- 14.—Ponveda, fourth finger; (lit. gold finger; the idiom in German is the same) *Tam.* ponviral.
- 15.—Chinakuda veda, (lit. small pointing finger); china in *Tam.* and *Can.* means small; *Mal.* chundole, pointing finger.
- 16.—Utura, gums; *Tam.* and *Tel.* iru; *Pers.* ر, ل arah, root of the teeth.
- 17.—Kuta, the lock of hair on the head called in most Indian languages jata; *Mal.* kuduma.
- 18.—Mira, hair; *Tam.* mayir; *Armenian* mas; *Pers.* موی moy.
- 19.—Mata, head; *Mal.* mita, face; *Mar.* माथा matha; *Tib.* ma-go, head; *Arab.* مآطاس maatas, the face.
- 20.—Konrula, the bulb of the eye; (*Can.*, *Tam.* &c., kan, eye, and urulu, orb, globe.)
- 21.—Papa, teeth; *Tam.* pallu; *Tel.* pandlu; *Can.* hallu; *Tulu* pallu; *Lepcha* apho.
- 22.—Nopu, tongue; *Tam.* nakku; *Mal.* na, and navu; *Can.* nalige; *Samojeidan* uava; *Georgian* nina.
- 23.—Kol, foot; *Can.* *Tam.* *Tel.* *Mal.* *Kal.* kalu; *Mongolian*, koel; *Pers.* kalluh, the ankle; *Mar.* कौट khot, the heel; *Canton*

Chinese, Koh, the foot ; *Finnish*, kok ; *Tib.* rkang.

24.—Peda, the belly ; *Bráhui*, pid ; *Hindi* and *Gujaratee* पेट pet ; *Singhalese* phaddh ; *Can.* potte ; *Mar.* pot ; *Tib.* phob ; *Canton Chin.* fat ; *Pers.* پوت put, the liver.

25.—Najagudi, the breast ; *Mal.* nenju.

26.—Ura, nail ; *Tam.* ugira ; *Can.* and *Tulu* uguru ; *Tel.* goru.

IV.—MISCELLANEOUS NOUNS.

1.—Pala, milk ; *Tam.* and *Mal.* pal ; *Can.* palu, or halu ; *Affghan* poy, *Sans.* पाय paya.

2.—Tata, fire ; *Tulu.* tu ; *Mal.* ti ; *Samojeidan* tu and ti ; *Motorisch* tuek ; *Celtic*, tan ; *Pers.* تيج tigh ; *Sans.* तेजस् tejas.

3.—Bakha, smoke ; *Can.* poge ; *Tam.* pugai ; *Eng.* fog and smoke.

4.—To, a door ; *Mal.* ta, a lock.

5.—Mukali, a three legged table ; *Can.* muru, three, and kal, foot.

6.—Taraga, a plate ; *Mal.* talika, a dish.

7.—Nei, ghee, melted butter ; *Tam.* and *Can.* the same.

8.—Bena, butter ; *Can.* benne ; *Mar.* loni.

9.—Barri, roof of a house ; *Tam.* pugam, outside of any thing.

10.—Gurri, sheep ; *Can.* kurri ; *Irish* Kaora ; *Turk.* koi ; *Mong.* goni, koni ; *Georg.* chhuri.

11.—Kas, money ; *Tam.* the same.

12.—Ten, honey ; *Tam.* ten ; *Can.* jenu.

13.—Malurdate, rain ; *Can.* male ; *Tam.* malei.

14.—Min, a star ; *Mal.* min, something bright, a star ; *Eng.* moon.

15.—Arl, a star ; *Irish* reall.

16.—Keta, a star ; *Sans.* केतु a planetary node.

17.—Min, a fish ; *Can.* minu ; *Sans.* मीन mina.

18.—Pula, a bird ; *Tam.* pul ; *Eng.* fowl ; *Lat.* pullus.

19.—Nir, water ; *Can.* niru ; *Tel.* nirlu ; *Tul.* ni ; *Brah.* dir ; *Sans.*

नीर. N. B.—This word has probably been introduced into the Sanscrit from the languages of Southern India, as probably others have been.

20.—Tenka, cocoanut ; *Tam.* tenkai ; (lit. sweet fruit,) *Mal.* tenga ; *Can.* tenginakai.

21.—Buttu, sweetmeat ; *Tam.* and *Hind.* mittai.

- 22.—Mijiti, lightning; *Can.* minchu; *Tam.* minnal; *Tel.* merussu.
- 23.—Avini, avala, love, desire; *Tam.* aval, to desire; *Mar.* आवड
avad, love.
- 24.—Yelala, night; *Can.* eralu; *Tulu.* irlu; *Japanese* yoru.
- 25.—Bagalu, day; *Can.* and *Tam.* pagal, *Mod. Can.* hagul; *Yen-*
niseyan, heg.
- 26.—Nalada, day; *Tam.* nal; *Tel.* nadu.
- 27.—Sammata, power; *Sans.* सामर्थ्य
- 28.—Melloka, heaven; *Tam.* and *Can.* mel, mele, upper and
लोह
- 29.—Churi, a knife; *Can., Mal., Hind. &c.* the same [*Sans.* क्षुरी.]
- 30.—Tikamukhu, steel; *Turk.* چاقماق chaqmaq; *Can.* and *Mal.*
chakkamukhu.
- 31.—Kabina, iron; *Can.* id; *Brahui*, ahin.
- 32.—Tegina, cocoanut oil; from teng and yena oil, both common
to all the Southern languages.
- 33.—Bara, a line in the hand; *Tam.* varei, a line; *Can.* baraha,
writing.
- 34.—Kunga, a bell; *Mal.* kinkini.
- 35.—Bala, value; *Can.* bele; *Tam.* vilei; *Hind.* and *Mar.* बोल
bol.
- 36.—Bisma, poison; *Sans. Hind. Mar. &c.* विष.
- 37.—Nara, small ribbon; *Tel.* Nada.
- 38.—Tosha, leather; *Tam.* tol; *Tel.* tolu; *Can.* togalu.
- 39.—Nusla, thread; *Can.* and *Tam.* nulu.
- 40.—Barosh, a year; *Sans.* वर्ष, of which corruptions are found
in all the Indian languages.
- 41.—Are, half; *Tulu* are; *Can.* ara; *Sans.* अर्ध.
- 42.—Bisla, the sun; *Tam.* veyil; *Can.* bille, white shining; *Pers.*
بلك بلك bilk, a spark of fire.
- 43.—Tagala, the moon; *Can.* tingalu; *Tam.* tingal; *Siberian,*
thyles; *Tibetan* zla; *Mar.* ingal, a live coal; *Engl.* ingle, a fire.
- 44.—Arasa, a king; *Can.* arasu; *Tam.* irasen; *Sans.* राजा.
- 45.—Beta, a mountain; *Can.* Betta; *Celtic*, ben; *Motarisich*, bija;
Mar. बेट bet, an island.

- 46.—Kotu, a cliff; [Sans. कूट.]
- 47.—Bakatu, a cliff washed by water; Can. bari, a well, i.e. and kotu.
- 48.—Nelada, a valley; Can. nelada; Tam. nilam, a field; Heb. nahal, a valley.
- 49.—Ana, an elephant; Mal. ana; Can. ane; Tam. yanei.
- 50.—Kara, a bear; Tam. and Can. karadi; Pers. کاري kari, fierce, impetuous; Brahui kharma, a wolf; Mar. करडा karada, coarse hair.
- 51.—Ira, a buffalo; Can. yerue; Tam. irumei.
- 52.—Karu, young buffalo; Can. karu; Tam. kattru.
- 53.—Danam, cow; Can. danam; Sans. धेनु.
- 54.—Yelta, bullock; Tam. yeruttu; Can. yeltu; Armenian yesm.
- 55.—Nari, fox, jakal; Can. nari.
- 56.—Noi, dog; Tam. na, nai; Can. nai; Mong. nokoi, and nogai; Japan innu; Murmi* nagi.
- 57.—Kotti, cat; Engl. cat, kitten; Tam. katti, young of any animal; Arab. كت kutan, a biting animal; Hind. कुत्ता kutta, a dog; Mar. कुत्ता kutra, a dog.
- 58.—Poti, a hog; Tam. paŋci; Tulu panji; Can. pandi; Samoje-dan paras; Lat. porcus; Tib. phag.
- 59.—Popo, a snake; Tam. pambu; Can. pavu; Concani Marathi, povo, a young snake.
- 60.—Moja, moji; fog; Tam. Can., Tel. manju; Mal. manyu.
- 61.—Pa, a lake; Tam. paikei; Hind. pani, water; (Sans. पान drinking.)
- 62.—Tora, food; Mal. and Tam. choru, rice; Tioetar khoru, bread; Pers. کورا khora, eating; Celtic torth, a loaf.
- 63.—Uli, an onion; Tam. Mal., and Can. the same.
- 64.—Adige, a cooking vessel; Can. adige; Tam. adu, to cook.
- 65.—Nadawadati, behaviour; Can. nadawadike.

V.—ADJECTIVES.

- 1.—Prita, friendly; Sans. प्रीत; also other Indian languages.
- 2.—Ket, bad; Can. kedu, and kettu.
- 3.—Wollodi, unwell; Mal. olla?
- 4.—Bavu, old; Tulu para and palaye; Gr. παλαιος; Mar. बाज

* The Murmis are a Himalayan tribe.

a hobgoblin (considered as an old man.)

5.—Busa, buta, new; Can. posa; Tam. putu.

6.—Nija, true; Sans. निज.

VI.—PRONOUNS.

1.—An, I; Tul. and ancient Tam. yan; mod. Tam. nan; Can. nanu; Mal. ngan; Tibetan nga; Heb. ani; Chaldean and Arabic أنا.

2.—Ni, thou; Tam. ni; Tulu i; Brahui ni, Mingrelian zi; Chinese zen.

3.—Ata, ita, that; Can. atanu, itanu; Lat. iste, ista; Marathi to, ti; Brahui ed; Tibetan de; Sans. एतद् this.

4.—Yarizon, who; Can. yaru; Tam. ar.

DECLINATION OF AN, I.

Gen.; nana, or yana; Can. and Brah. nana; Tib. nyayi,

Dat.; nanka, or yenka; Can. nange; Tam. yenakku; Tulu yenku.

Instrum.; nanafa, yenafa; Tam. yenodu.

Accus.; yenama; Can. nannannu.

Am, we; Tam. nam; Can. naw; Mar. amhi; Brah. nan.

Nam, you; Tam. nir; Can. nivu; Brah. num.

Atam, they; Tam. atangel; Can. atangalu.

VII.—CONJUGATION OF YEPPENO, TO BE.

PRESENT TENSE.

	TODA.	CANARESE.	TAMIL.	TULU.
Sing. 1	Isken,	iruttene,	irukkiren,	ippuve,
2	Yetten,	irutti,*	irukeral,	ippuva,
3	{ Yetatti, Yetataji,	iruttene,	irukkeran,	ippuve,
Plur. 1	Yetapemi,	irutteve,	irukkirem,	ippuve,
2	{ Yetapini, Yetappi,	irrutire,	irukk'rir,	ippuvar,
3	Yettati.	iruttare,	irukkirar,	ippuver.

PAST TENSE.

Sing. 1	Yetten,	idde,	irunten,	itte,
2	Yetti,	iddi,	irunti,	itta,
3	Yetata,	idda,	iruntan,	itte,
1	Yetem,	iddevu,	iruntom,	itto,
2	Yeter,	iddiri,	iruntir,	ittar,
3	Yetaji.	iddaru.	iruntar,	itter,

* Brahui ares, thou art; aveli, ye are

Perfect Tense.—Yettatenenk, I have been.

Future Tense.—Yettappeni, I should be.

1. Ulpeni, I am ; 2 ulpia, thou art ; 3 udi, it is.

N. B.—This is a second form of the verb *to be*, in all the southern languages, just as in Turkish the roots *Im* and *Ol* assist each other in the substantive verb.

VIII.—LIST OF VERBS.

1.—Asanka, (impersonal) it has become ; Can. aitu ; Tam. ai ; Tulu andu.

2.—Yelta, to say ; Can. annu, ennu ; Tam. *erpu*. yelten, I say, yel-tita, something said ; Can. heliddu.

3.—Noda, see thou ; Can. nodu ; Tam. no-kiratu.

4.—Ankera, to sit down ; Tam. unakkar.

5.—Arpeni, I know ; Can. ariutteni ; Tam. arik kiren ; Tulu arpe. Arste, having known, Can. and Tam. aritu ; Pers. *اروند* arwand, proof.

6.—Bara, to write ; Can. bareyu ; Tam. varei.

7.—Wokha, go, ada wokha, thither go ; Can. alli hogu ; Tam. po ; Engl. walk ; Arab. *وakash*, motion.—Poici, it is gone ; Can. hoi-tu ; Mal. poisi ; vulg. Tam. pochchi. Pokem, let us go.

8.—Wo, come ; ida wo, here come ; Can. illi ba ; Tam. va ; Hind. idhar ao ; Heb. *bo* ; Bodaji, boji, he came ; Can. bandanu ; Tulu batte, Gr. *βαινω*, to go.

9.—Yerria, to grind ; Can. arigu ; Tam. arei ; Arab *ير* yarra, hard smooth (stone)

10.—Pekidi, to be down ; Tam. padu-kiratu.

11.—Geppini, make you ; anageine, not made ; Can. geiu, and Tam. jeyu, to make ; Gr. *τετταω*.

12.—Tikaji, found ; Can. tikku ; and sikku to find ; Hind. and Mar. thikan lagana, to find ; Arab *ثقف* thakf, finding.

13.—Dippeni, to sneeze ; Tam. tumpal.

14.—Pendakken, I hear ; Tel. vintunanu.

15.—Tetvo, bring ; probably tegadu ba of the Canarese, usually tegadu konduba, having acquired come. This is the form of phraseology for bring used in Tamil, Hindostani, and all the Indian languages.

ges, and even in the language of Tibet. Tamil *Kondu va* ; Hind. *lekar ao* ; Tib. *khur shog*.

16.—Tuvin, to spit out ; Tam. *tuppa*. Kiratu. Mar. थुकने *thukane* ; Sans. थुथु imitative particle.

17.—Phudu, let go ; Tulu *budu* ; Can. *bidu* ; Tam. *vidu* ; Hind. and Mar. बिडाइ, sending away ; Arab. فُج , parting.

18.—Madi, to make, Can. *madu* ; Tulu *malpu* ; Engl. *made* ; Tib. *byed-pa*.

19.—Udapini, I drink : udappini, I drank. Can. and Tam. *kudia*, to drink.—Uduja, hast thou drunk : Can. *kudya*.

20.—Tina, to eat ; Can. *tinnu*.

21.—Palta, to stick, to lay hold of ; Can. *pattu* ; Tam. and Mal. *patfruka*, or *pappu*.

22.—Yerpeja, thou hast washed ; Can. *yerapu*, to wash.

23.—Mechitti ; to cover ; Can. *muchehu* ; Tam. *mudu* ; Lat. *amictus*.

24.—Nasla, to walk ; Can. and Tam. *nada*, *nadia*.

25.—Bula, to strike ; Can. *badī*, *bodī*.

26.—Badaka, to live ; Can. *baduku*.

27.—Keda podagla, to be destroyed ; Can. *kettu hogu*, (*pogu*) from *ketto*—bad, and *hoga* or *poga*,—to go.

28.—Duru, to burn ; Can. *uriu* ; Lat. *uro* ; Affg. *wur*, fire ; Kurdish *ur* ; and Heb. *ur*, fire.

29.—Apkija, hast thou cut.—Kei apd vodaji, (lit. hand cut not-must) you must not cut your hand ; Tam. *apu*, to cut ; Tulu *bodiji*, you must not ; Can. *beda* ; Tam. *venam*.

30.—Tirijya, hast thou finished ; Can. *tiridya*.

31.—Keva, to sit ; Can. *kudru* ; Tam. *kurpu*.

32.—Vorga, to sleep ; Tam. *urakkam* ; Mal. *orakkum* : perhaps Can. *yeragu*, to bow, lie down.

33.—Tigelti, it is sweet ; Can. *shi* ; Mal. and Tam. *ti* ; and Tel. *tipu*, sweet.

34.—Pulajti, it is acid ; Can. and Tam. *puli*, sour.

35.—Muri yeda, to offer up a petition ; Can. *more idu*.

36.—Bisu, to lose ; Mal. *venunnu*, a thing lost ; Can. *bisadu*, *bisu*, to lose:

37.—Bippi, hast thou thrown ; (a kind of cawsal from Can. bilu to fall.)

38.—Poyom, polu, to beat ; Can. poḍeyu : Tam. puḍeikka.

PHRASES.—Kel piyestom, let us speak, also arpedom.—The first seems the causal of kel, to hear i. e. let us make ourselves heard. The second, the causal of ari, to know ; i. e. let us make ourselves known.

Bisla gayodi, the sun shines. Neke gastī, the moon shines.

Atam baskema yeḍumma, they have said they will come ; baskema, futwr of the verb to come ; Can. baru ; Tulu barpem. Yeḍumma, they have said, connected perhaps with Can. and Tam. erpu to say.

Boddia, art thou come ? Can. bandia ; Tulu battia.

Atam yen eḍa poiskka ; lit. they what having said went ? i. e. what did they say before they left ?—Yen, what is ? Can. yenu ; Tam. yennan.

Attanagei, so make it.

De udi gasji, God has made existant, De is the Sans. देव used throughout India. Udi. Can. untu ; Tulu. and Tam. undu, a participle from ul, to be ; gasje, past tense of gei, to make.

Kelodisuppi, he has not asked : Can. Tam. Kela, to ask.

PARTICLES.

- 1.—Ani, now ; Can. ani, day ; Hind. abhi, now.
- 2.—Yel, where : Can. yelli.
- 3.—Inka, inkasa, here ; Tam. inku : Mar. ikade.
- 4.—Irri, hither ; Can. illi ; Hind. idhar ; Tib. hadir.
- 5.—Inna, what ; Can. yenu ; Tam. yenna.
- 6.—An, thither ; Can. allige.
- 7.—In, hither ; Can. illige.
- 8.—Yer, yerjan. inside ; Mal. ipa ; Tam. ideī, within ; Tib. nangan.
- 9.—Terige, again ; Can. tirugi.
- 10.—Bek, behind ; Mal. veiyuka ; Tam. veikkal, stay behind ; Engl. back ; Pers. pesh.
- 11.—Imara, this side ; Can. i merege. }
- 12.—Amara, that side ; Can. a merege. } Tam. marunga, side.
- 13.—Maduka, before ; Can. munde ; Tam. muduka. [Sans. प्रमुख]
- 14.—Kadaga, near to ; Can. kadege ; Tam. kadei extremity ; Mar.

केड, near ; Tel. ikkade, this way ; akkade, that way ; [Sans. केट the side.]

15.—Atonon, so much ; Can. ashtu ; Tulu. ata ; Tam. attanei ; Hind. itana ; Mar. itake ; Mal. tona, much.

16.—Yetatom, how much ; Can. yeshtu ; Tulu yeta ; Tam. yetane ; Tib. Chitsam,

17.—Ber, quick ; Can. bega : Sans, वेग

18.—Yava khalma, always ; Can. yavagalu.

19.—Yelolma, all : Tam. yellarum : Can. yellaru : Georgian qwelani : Engl. whole.

20.—Ita yeda, to-day ; Can. indu ; Tam. ipu ; Tib. dering.

21.—Pedaka, to-morrow ; Tel. repatiki.

22.—Berner, after to-morrow ; Can. bere, another, and Tam. meram, time. Mar. पर्वा purva, day after to-morrow ; Hind. parso.

23.—Abherner, day after to-morrow.

24.—Muner, before yesterday : Can. monne, from Can. munde, or, Tam. mun, before ; Tib. madang, yesterday.

25.—Ammuner the day before yesterday.

ART. IV.—*Translation, from the Persian, of the Kissah-i-Sanyán ; or History of the Arrival and Settlement of the Pársis in India.* By Lieutenant E. B. EASTWICK. *With a few Annotations by the Rev. JOHN WILSON, D. D., President of the Society.*

I have given a brief summary of the contents of the Kissah-i-Sanjan in the preface to a Sermon entitled "The Doctrine of Jehovah addressed to the Pársis," published in 1839 ; but as the document is the most important of the very meagre accounts possessed by the Pársis of the settlement of their forefathers in this country, I lately begged my friend Mr. Eastwick, who has just been admitted a member of our Society, to render the whole into English. This he has most readily done, and that with an accuracy and ability which may lead us to desire many similar contributions from his pen. I have added a few notes to his translation, which I have marked with the letter W. The Zand type here used, is from a fount lately prepared by the American Mission Press.

J. W.

In the name of God the Merciful and Beneficent !

Praise* be to the name of the God of Wisdom.
 My soul unceasingly repeats His praises,
 Night and day I offer to Him thanksgivings,
 For my soul is made joyful by His praise.
 In season and out of season I speak not but of Him;
 He who appears to the world, Lord of the East.†
 Powerful is He, and mighty everlastingly :
 The eye of His creature is through Him filled with light.
 He is the universal refuge and protector,
 He is the merciful, and the forgiver of sins.
 He hearkens ever to those who cry to Him.
 He shows the way of justice and faith to the wise.
 Cherisher of the poor and support of the world is He ;
 He bestows pardon and blessings on sinful man.
 He is our eternal guide ;
 Friend of our secret hours and remover of our difficulties.
 In thee, O God ! is perfect power :
 Thou art the King, and thy empire finds no decay.
 Thou art the Lord of Lords !
 Wonderful, fearless, incomparable !
 From clay didst thou form man by thy power,
 And infuse into him joy and happiness.
 Thou dost convey the seed into the womb,
 And dost impress the water with form :
 Thou givest the seed form and body,
 And conveyest to it the faculty of sight.
 Thou hast given the manifest power of speech,
 And hast bestowed on man an invisible essence :
 Thou hast imparted to his eyes the power of seeing,
 And to his ears the faculty of hearing.
 Thou hast given him a tongue to utter words
 That he may move it in the repetition of thy name.
 Thou hast given him the power of smelling perfumes,
 And feet that he may stand withal.

* In the introduction to most modern Pársi MSS. and publications, the praises of God are recited, as in this instance, much in the form adopted by Musalmán writers. The descriptions of the Deity thus given, far excel those contained in the *Zand-Avastá*.—W.

† خاور in the original. "The west ; but often used by the poets for the east ; and also for the Sun." *Richardson's Dictionary*. The allusion above is evidently to the Sun, which, it will be observed, the author of the *Kissah-i-Sanján*, makes synonymous with the Deity.—W.

Thou hast strung thirty-two pearls* in one necklace,
And hast given to us the power of taste.
So perfectly has the world been formed
That one could surrender life for the Artificer.
In the souls of lovers thou hast infused bitterness,
And hast given relief to their suffering and pleasure.
Thou hast formed the two worlds over Chaos,
And hast made man the ruler over creation.
Verily the Godhead beseemeth Thee !
Wisdom hath testified to thy works.
Wherever my tongue utters thy infinite praise,
It is exalted by thy thankgivings.
My neck is bound with the cord of thy love :
Wherever it draws there I hasten.
I have no choice but to obey my Lord,
Since I am ever filled with the zeal of obedience.
Eternity is the attribute of God alone,
Since He is ever without equal.
Thou hast created the Universe :
By thy command the world was formed.
Man was formed by Thee of clay and sand,
And Thou didst confer on him the stewardship.
Thou art the unchangeable One !
And Thou dost render me assistance.
Thou hast nor equal nor compeer.
And all creation rose at Thy command.
Heaven and Earth were created by Thee,
And man was formed by Thy power.
Bahman has brought his soul to Thy Court ;
In this world his heart is enlightened by Thee.
Fill thou his heart with the true faith
And free his soul from the bond of grief.
Keep him always in the faith,
And by Thy grace enlighten his soul.
I have no benefactor beside Thee
And my hope in both worlds rests on Thee.
O Thou merciful One ! forgive my sin,
And my tongue shall repeat Thy praises.
Thou protectest my helpless life, and heapest blessings on thy creatures
To whom shall I turn if Thou repellst me ?
Where shall I betake myself since there is none like Thee ?
I am ashamed of the imperfection of my praise,
I have no part in this knowledge,
I come before Thee deprecatingly,
Since thy empire is eternal.

* The teeth !

Assist me, O Supplier of the world,
 Since I am the humblest of Thy creatures.
 I will have no point of adoration but Thy house.
 What acceptable thing shall I offer to Thee ?
 In life I seek Thy aid,
 Since this body will not accompany me hereafter :
 At the last Thou wilt restore my body,
 What is there dreadful then in death ?
 When my spirit shall go to Paradise,
 I will keep Thy name on my lips.
 When my spirit separates from the body
 Send Thou an angel to me,
 But an angel of the inhabitants of Heaven;
 That my soul may be enlightened thereby.
 Those sins of which I am ignorant
 Do Thou, out of Thy mercy, forgive.
 What excuse shall the aged Bahman offer,
 Since he has failed greatly in obedience ?
 But forgive his sins, and free
 His soul from secret fears.
 Accept Thou the words of my prayer,—mercies
 Since I have experienced from Thee diverse.
 O Lord thou knowest my secret thoughts,
 Why drivest Thou me vainly to and fro !
 My salvation in this world is from Thee,
 Why should I seek the favour of others ?
 My youth is gone, and my old age arrived :
 The cypress tree of my life approaches Paradise.
 The aged Bahman is the most abject of the lowly :
 Aid Thou me, and support me always.
 Thou art my God in both worlds :
 I am weak and powerless, but Thou art my stay.
 Wash the sleep of forgetfulness, O God, from my eyes,
 And free me from iniquity.
 According to the manner of my sinfulness,
 Judge Thou me not, O good Lord !
 Of Adam only, sin is produced* :

* *نمی آید - زادم جز گدا* literally, "from Adam nothing but sin hath come." The doctrine here taught is evidently derived from the Jewish scriptures, probably through the medium of the Musalmán writers, whose style is imitated in this introduction. It is the dogma of the Zend-Avastá, that neither original depravity, nor sin, attaches to man at his birth. Thus we have:

— ۳۴ —

— ۳۵ —

Shew me how to believe in Thee.
 In Thy Court I lift up my cry,
 That Thou wilt not write my name among sinners.
 If Thou wilt bless thy servant
 I shall be exalted in both worlds.
 I had begun to reflect regarding Thee,
 And again I had renewed the consideration :
 I beseech Thee, O giver of prayers,
 That Thou wilt turn on me the face of thy mercy !

The Tale of the Arrival of the Believers in the True Faith in Hindustán from Khorásán.

Hear now a wondrous tale
 Recited by the Mobeds and the faithful !
 Should I speak, the relation would be impossible :
 Should I write it, no paper would contain it,
 Yet will I endeavour to repeat somewhat thereof :
 If the words of it be a hundred I will utter at least one.
 I have heard from a wise Dastúr,
 From one ever famed for goodness,
 Who had so read the Zandavastá
 That he could repel the followers of Ahriman.
 The eyes of the men of his city were fixed on him,
 For the faith was ever enlightened by him.
 In these times his order was over all :
 He it was who arranged the affairs of the faith.
 Whoever enquired of him in matters of religion,
 In obeying him executed what was due thereto.
 In the city which he inhabited
 He rejoiced with his heart and soul to impart instruction.
 He related this tale according to the tradition of the faithful,
 And recited the secret legends of the true believers.
 One day he acquainted me with this story :
 He pierced the pearl of intelligence excellently.*

yaozháo mashyái aipi zāthem, vahistá hā yaozháo Zarathustra, yā daēna Mázdayaēnis—"For the man pure upon birth, O pure Zoraster, [is] this excellent Mázdayaēni religion." *Vandidad, fargard V.* This doctrine is defended by Dōsabhái, the author of the *Tálim-i-Zartusht*, lately published under the auspices of the Pársi Panchâyat. It is opposed, however, by Aspândiárjî Frāmji, another contraversionalist, who has come forward in defence of the Zoroastrian faith.—W.

* An overstrained metaphor, for accomplishing any new work.—E.

He it was who gave me the relation :
 And for that, may good abide with him everlastingly.
 As he made the relation to me, so I repeat it :
 I recite the legends of the faithful.
 In the days when reigned Gushtasp,
 The heavenly Zartusht revealed the faith.
 In the Wasta* he prophesied what would happen.
 He said—An oppressive King will rise among you ;
 Three times will the true faith be broken ;
 Thrice will it be trampled on and overthrown :
 The name of that Shah shall be ' Situmgar'† :
 Through him the faithful shall be brought to despair.
 Be attentive, for I speak of what concerns the faith.
 'Twas thus the faithful were brought low :
 Sikandar Sháh appeared in the latter days ;
 He burned the books of the true revelation.‡
 For three hundred years was the faith brought low,
 For that time were the faithful oppressed :
 Then for many years the faith found protection.
 When king Ardashir§ had assumed the sceptre,
 Again the true faith was restored,
 And its excellence confessed through the world.
 The guide sent by God was Ardai Viraf,
 Sent from Heaven and possessed of all excellence ;
 And after that the inhabitants of Heaven
 Again broke through this ordination—
 Again they interrupted the good faith.
 On all sides an evil report of the faith arose.
 After a time when arose the king Sháhpor,
 He again rendered the faith illustrious.

* Or, Avastà.

† Or Sikandar (Alexander.)

‡ According to the general traditions of both the Musalmáns and Pársis, Alexander the Great and his successors destroyed all the books of the Persian religion on which they could lay their hands. Edal Dāru, the present chief-priest, of the Rasamís, the larger sect of the Pársis, denies the fact. (See *Maujazzāt-i-Zartusht*, pp. 21—23). His opinion he supports by making an indefinite reference to the *Farhād-Nāmah*, a work which, he says, was composed by a Mobad in the days of Ardeshir Bábegán, about 450 years posterior to the death of Alexander ; to the *Dabistān* ; and to the *Shāristān*, a work somewhat similar to the *Dabistān*, composed in the reign of the emperor Akhbār,—the author of which declares that the ghost of Alexander himself appeared to him in a dream and declared that he was innocent of the crime laid to his charge. Such conclusive testimony as that last mentioned, it is of no use to impugn.—W.

§ Ar dē shir Bábegán.

When the faithful Azarbad Mahrasand,
 Girt up his loins for the sake of the good faith,
 He formed brass of seven materials,
 And poured thereof upon his body.
 He removed all the difficulties of the faithful,
 And again restored its former splendour.
 From Sháh Sháhpur to Yazdejird,
 The faith retained its dignity and honor.
 Then the days foretold by Zartusht arrived,
 And men sought in vain for the true faith.
 When a thousand years from the time of Zartusht had elapsed
 The star of the true faith reached its zenith.
 When the kingdom went from Shah Yazdejird,
 And the enemy of the faith had seized his throne,
 Then the power of man was broken :
 Alas ! that land of the faith was laid desolate,
 Then were all those dispersed
 Who had fixed their hearts on the Zand and Pazand :
 Then the faithful and their Dasturs altogether
 Concealed themselves on account of their faith.
 Their abodes and residence, their gardens, halls and palaces,
 All these they abandoned on account of the faith.
 A hundred years they abode in the mountains.
 When their state had arrived at this,
 At last for the faith of his people,
 A pious man gave this counsel :
 He said to his friends—Behold ! in this place also
 To tarry is difficult from fear of the enemies of the faith.
 The faithful with their Dasturs to a man,
 Then departed to the city of Hurmaz.*
 After they had sojourned in that land fifteen years,
 They began to experience oppression from the enemies of the faith.
 There was among them a learned Dastur
 Who was skilful in reading the stars :
 He examined the ancient tablets and saw
 That destruction was approaching (if they tarried there):
 He saw that it was right to leave that land—
 That it behoved them now to depart,
 Otherwise they would fall into the snare ;
 Their understanding would be vain, and their efforts futile.
 They resolved it would be better to fly from the wicked Dews
 And betake themselves to the confines of Hind.
 From fear of death, and for their faith, they all
 Betook themselves to Hindustan.
 When they had brought down their ships to the Ocean

* The island of Ormus.—W.

If we escape from this sea to the shores of Hind,
 And arrive there with joy and gladness,
 We will kindle on high the flame sacred to Behram,*
 The Rescuer from danger and Preserver from peril :
 We agree to do this in honor of God,
 For there is none to befriend us beside Him !
 By the blessing of the glorious flame of Behram
 They all escaped with gladness from that danger :
 That moment their prayer was accepted,
 And God in their need rendered them aid.
 A gentle gale arose breathing heavenly light :
 That stormy wind departed before it.
 When the helmsman lifted up his voice
 In praise of the holy God, and steered out of the whirlpool,
 All the Dasturs and the faithful who were in the vessel
 At once directed the ship into the clear sea.
 Fate then ordained that thereafter
 They all arrived at Sanjan.†
 In that territory there was a good Raja
 Who flourished there in righteousness.
 His name was Jálí Ránà,‡
 Who was liberal, wise and prudent.
 A Dastur went before him with offerings,
 Selected for his learning and understanding.
 He blessed him and said, O Rai Rayan,
 Grant us a place of abode in this thy city :

* The *A'tish-Behram*, or fire of Bahram, is found only in six of the temples of the Pársis of India. One of these temples is at *Udhwādā*, north of Daman ; one, at Nausàri ; two are in Bombay ; and two in Surat. The *Atish Adarān*, (literally the fire-of-fires), the other so-called sacred fire worshipped by the Zoroastrians in this country, is to be found in most of the villages which they inhabit.

† It is from this place, the first at which the Pársis settled in India, that this historical tract receives its name—the *Kissah-i-Sanjan*. It is situated on a creek, anciently of the same name, about 24 miles south of Daman, and about 4 or 5 miles inland. In 1839, in company with the Rev. James Mitchell of Punā, I paid a visit to it, with the view of collecting any traditions respecting the Pársis which might be afloat in its neighbourhood. It now contains only one or two Pársi dwellings. In the neighbouring village of Nargol, probably a part of the original Sanjan, which was represented to us to be very extensive, there are still a considerable number of Pársis. We could learn nothing from them, but the traditions embodied in this tract.—W.

‡ This is probably a corruption of the Hindù name Jayadeva. The prince was probably subordinate to the Rajput King of Chāmpāner, or perhaps Pattan, formerly the Hindù capital of Gujarāt.—W.

We are poor, and have sought thy protection.
We have arrived in thy city and at thy abode.
We have arrived here by reason of our faith.
We have heard that in this place is one
Of virtuous acts, descended from the kingly Rayan,
Whose fame perpetually extends through Hind.
We hope to find refuge in thy city and land,
And that thou wouldst look favorably on us.
From what we heard of thee we rejoiced,
And auspiciously have we arrived in thy presence,
Now have we come to thy city,
And by our hopes in thee have escaped the wicked.
All the followers of that excellent Prince
Rejoiced in their hearts, and were glad at this discourse.
When the Prince beheld the faithful,
He was suddenly filled with fear :
His heart began to fear for his crown
Lest they should devastate his country.
The Rai was filled with apprehension at their dress :
He inquired of the Dastur their secret observances.
He said at length—O pious Dastur,
Tell me first the secret of your affairs.
What then is the nature of your faith ?
What is it manifestly and in secret ?
First let us know this faith of yours,
After that we will prepare your abode.
The next condition is, that in order to remain here
You abandon the language of your country—
That you give up the language of Iràn
And acquire the language of Hind.
The next condition regards the dress of women,
Which must resemble that of the women of this land.
Fourthly, these weapons and this armour
Must be laid aside and discontinued.
Fifthly, when a son is married,
The marriage procession must be at night.
If these conditions are accepted by you,
Our city is open for your reception.
When the Dastur heard all these words from the Rai,
Being without resource he accepted the proposals.
Then the old Mobed thus addressed the Raja :
Hear, O illustrious Prince ! what I relate of our faith :
Be not thou afraid of us,
No evil will result from our arrival here.
We will be friends to all Hindustan :
We will scatter the heads of thy enemies.
Know for a certainty that we worship Yezdan.

We worship* fire and water :
 Also the cow, the sun and moon.
 Whatever God has created in the world
 We pray to, for He has selected them.
 This belt, composed of seventy-two threads,†
 We bind on with the solemnity of vows.
 Our wives when they are in their courses
 Look not on the sun, or water, or on the moon :
 From fire and water they remain at a distance,
 Since those things are of the essence of light.
 From all things they carefully abstain
 In the light of day and the darkness of night :
 They abstain till their courses are completed.
 When they have purified themselves they look on fire and the sun.
 Moreover the woman who bears a son .
 Must observe restriction forty days—
 The same restriction as a woman in her courses,
 And she must remain retired and in seclusion.
 When a women bears her son before her time is fulfilled,

ness is owing to our holy Zand-Avastá. It ought to be known also, that this circumstance is mentioned in the first book of the *Wajarkard*."

According to the Vandidál, religious ablutions are generally to be performed with cow's urine. Many atonements are also made by potations of this beverage.—W.

* بر سدهش میگذایم in the original Persian. Dr. Hyde says that the Pársis of India never allow their adoration of the elements to be characterized as *parastish*. The text of the *Kissah-i-Sanján* in this place, is one of some hundred testimonies which could be adduced to evince his mistake. A considerable number of them, along with many illustrations of their warrant by the Zand of the Vandidál and liturgies, I have brought forward in a work now in the press, entitled "The Parál Religion as contained in the Zand-avastá, and propounded and depended by the Zórástrians of India and Persia, unfolded, refuted, and contrasted with Christianity."

† The *Kusti*, or sacred cincture by which the loins are girt. I have never heard any rational explanation of it as a symbol from the Pársis. The same remark is applicable to the *Sadra*, or sacred muslin shirt. The form and texture of the latter, however, evidently show that it is intended to be the representative of a *Coat of Mail*. The *Sadra* and *Kusti* together, are the panoply in which the Pársis believe that they can successfully resist the assaults of *Abriman*, the evil Principle. *Elal Dáru*, in his *Maujazat-i-Zartusht*, says "that the *Sadra* and *Kusti* preserve the soul from the calamities accruing from *Abriman*;" that the "souls of dead children," are prevented by them "from becoming devils, *Khavis*, and *Jins*," "while many of the souls of the *Jud-díns* become devils, *Khavis* and *Jins*." pp. 4, 8.—W.

Or when a dead child is born to her,
 She is not permitted to go abroad or move out,
 Nor is she allowed to converse with any one.
 That woman must observe a strict abstinence—
 For forty-one days she must abide therein !
 Thus whatever were their observances and rites,
 The same did that Dastur recite to the Raja.*
 When the mysteries of the faith were unfolded,
 And the pearl of intelligence had been well pierced :
 When the Hind Raja had heard the words of the Dastur,
 And his heart had been filled therewith ;
 Then did that good Prince command them
 That they should abide in his land.
 He ordered that their men of rank and age,
 Of good disposition and wise of counsel,
 Should examine the land minutely,
 And when they found a vacant spot, should inform the Mobed thereof.
 A place in the desert was fixed upon :
 It was a pleasant spot, and there they fixed their abode.
 They found that spot acceptable,
 And they raised a city where had been a desert :
 It was then but forest land and uncultivated :
 When they, with their wives and old men, disembarked.
 When the Dastur saw the soil was good
 He selected the place for their residence.
 The Dastur named that spot Sanjan,
 And it became populous as the land of Iran.
 There they sojourned with repose and happiness :
 Every one betook himself to his own pursuits.
 One day when they had business with the Raja
 They all went before him glad of heart.
 The Dastur said to him—O son of Princes !
 You have given us an abode in this region.
 It is now our desire to place in this land of Hind
 The sacred fire of Bahram.
 It is necessary to clear the land for three farsakhas
 That the affair may be properly conducted.
 Let no stranger approach the spot :
 None but the wise and faithful may draw near.
 There let no enemy of the faith appear,
 Then the worship of the sacred flame will be rightly observed ;

* The Pársis have summed up the information given to the Rājā in sixteen Sanskrit Shlokas, which are commonly circulated in a somewhat corrupted form in the Gujarātī character. The substance of them, I have given in " The Doctrine of Jehovah addressed to the Pársis."—W.

Lest any one should lift his voice therein,
And a hindrance should occur in our worship.
The Rai replied—I grant permission :
I am free from this request as I comply with it ;
I agree to it from my heart,
For I desire such a shrine to be reared during my life.
What is better, O wise men,
Than at once to commence the undertaking.
At the same time the Rai gave the order,
He gave up a place to the pious Dastur :
At the same time the Prince, that Hindu Raja,
Cleared the ground in every direction :
To the distance of three farsangs he removed the enemies of the faith :
Within that space none remained but the faithful.
No one remained there to the distance of three farsangs,
None except the men of wisdom.
Round about were placed the vessels used by the Dasturs,
Shining brightly like the sun.
Night and day watches remained there.
Thus by the order of Yazdán was the affair ordered.
In that time all were wise,
Every one was skilled in the affairs of religion.
On the appointed days and months they held solemn feastings—
They prayed and gave abundant donations.
The faithful were delighted in their own affairs,
And thus firmly established their faith.
The Prince also, Jadi Rana himself,
Sent abundant offerings of every description.
In those times all the government
Was transacted by the hands of the faithful.
All their affairs were prosperous,
Inasmuch as they had brought with them the tools and skill of Khurásán.
Several families also of the Dasturs of the faithful,
Of righteous behaviour had arrived there.
With them also were several alchymists,
To whom success was given by the favour of God.
Many implements and much furniture they had brought with them,
And they kindled the sacred fire according to the rights of the faith.
As the faith prescribes, did those ancient Dasturs
Place three sacred fires full of exceeding light.
In those times they were learned in the faith,
And executed the matters of religion wisely.
In these times God only knows what is the faith : *
However one thing is certain, that the faith must be observed.
In that land all the faithful and their Dasturs

* I would recommend this line to the consideration of the Pársís.—E.

Held a festival, solemn, and exhilarating with wine.
 Thus three hundred years more or less passed away,
 And many men flourished there whose number is uncertain.
 The faithful were dispersed through Hindustán ;
 Wherever they pleased they selected their abodes.
 Some went with their whole property to Nausari ;
 They removed there pleasantly and fortunately :
 Some turned their faces to Bānkanir :
 Others betook themselves to Baroch.
 Some went towards Baryao :
 Every one sought a different abode.
 Some arrived at the city of Ankliśar.
 Some assembled themselves in Cambayet.*
 Every one found repose in a different direction.
 Much happiness and property they enjoyed,
 And thus they passed two hundred years.
 In that time in the city of Sanjan,
 Those families of the Dasturs which had remained,
 On them fell the decree of fate—
 I know not what became of them.
 There was a Dastur young in goodness,
 And possessed of the talent of eloquence—
 The name of that Dastur was Khushmast,—
 Whose actions were always those of righteousness ;
 The name of his son was Khujistah,
 Who was obedient and dutiful to his wish.
 It was always his duty to perform the Yazish,†
 Since he was always vers'd in the rites and in the Bāj.‡
 He was also well skilled in the Yazish,
 And remained constant at the Arwisgah. ||
 That holy person was held in high repute,
 And may he rejoice in the delights of Paradise !
 In this manner seven hundred years had elapsed,
 When heaven became unpropitious in the following
 manner :
 Suddenly the world became narrow to him,
 And fortune every where oppressed him.
 After certain years in the lapse of time
 The Shah heard of the Rai of Sanjan.

All these lines
 are very obscure,
 and appear en-
 tirely uncon-
 nected.

* All the places here mentioned are easily recognized on the map of Gujarát.—W.

† یازش *Yazna*, in Zand, the sacrificial rite, corresponding with the Sanskrit यज्ञ *Yajna*, sacrifice.—W.

‡ The “muttering” at meals.—W.

|| The board on which the Pársis place the vessels they use in their religious ceremonies.—E.

After five hundred years had elapsed from the arrival of the faithful in
Hinde,

Islam was introduced into Champanir.

A good Shah was born with fortunate omens :

In that City he was enthroned.

His name was called Sultan Mahmud :*

His subjects called him the shadow of God.

When after certain years he was informed

That there was a prince in the direction of Sanjan.

His vizier Banaz Khan said one day,

That thus hath the fortunate Shah ordered :

‘ Proceed with an army to Sanjan,

That the land may be brought under subjection.’

At the order of the Shah Sultan Mahmud

Forth came the warriors like the spreading of smoke,

All his army clothed in armour,

The Eagle unclosed its pinions.

When Alaf Khan had moved his army thence,

He advanced on the populous Sanjan.

News was brought to the Hindu Prince of that host :

He was told that from every quarter his foes were assembled.

There were two thousand chosen horsemen

Selected from that numerous host by their noble leader.

When the Raja heard of these tidings he was dismayed.

After a time he again recovered his senses.

He then called all the Mobads to his presence—

All the faithful and the Hérbuds.

That good prince said to them—

What counsel give ye my faithful friends ?

My ancestors exalted you ;

They lavished favours upon your people :

In this my difficulty it behoves you to exert yourself,

And to lead the way in battle.

If ye recollect the benefits conferred by my ancestors,

Do not refrain from shewing your gratitude.

Then the old Mobad, responded to him,

Fear not, O prince, on account of this army.

All of us, as long as our lives remain,

Will scatter the heads of thy foes by thousands.

Our custom in battle is known to all :

We give not way as long as our lives continue.

One man of us will never turn back,

Though a millstone were dashed on his head.

When the Prince heard his words,

* This is Mahmud Shah, surnamed Begada. The time referred to was about 1507, A. D.—W.

He bestowed on him a dress of honour of divers pieces.
 In those times there were among the faithful
 Many who were fit for war, both young and old ;
 They reckoned up the number of believers,
 And fourteen hundred were entered on the roll.
 Instantly the young men bound their saddles on their horses ;
 The horsemen stood armed in mail :
 In that place the whole body of the faithful
 Drew up their ranks before the Raja.
 The dawn rose on the darkness of night,
 And the lamps of the stars were concealed in the cave of gloom.*
 And now when Alaf Khan with his horsemen
 Put on their armour and descended to the plain,
 They placed their embroidered saddles on their steeds ;
 They raised their banners on the backs of elephants ;
 They saddled their horses for the battle ;
 The plain was rendered narrow by reason of their elephants.
 The leaders arrayed their troops ;
 On all sides they prepared the weapons of war.
 When they had drawn up their squadrons on the plain,
 They blew the brazen trumpets of war.
 Thus was each army drawn up in array :
 On one side the host of Islam, on the other that of Hind.
 Day and night they were engaged in strife ;
 The speed of their horses through much labour grew slow.
 The two leaders on either side like dragons,
 Exerted themselves like leopards.
 The world grew dark as pitch with clouds,
 From which rained sword and javelin and arrow.
 On either side many were slain :
 Every where the dead lay in heaps ;
 None succoured them or came to their aid.
 Such was the order of God regarding them.
 Around through the hosts none were visible ;
 All had fallen in countless numbers.
 Flight then arose among the army ;
 None recognised another therein.
 That pious leader said to his friends—
 “ I see none of our Hindu friends around us.
 (For the Hindus fled from the battle,
 None but the faithful remained there.)
 Now is the season of battle, O my friends !
 Let us go into the contest like lions ;

* This is perhaps intended metaphorically, for the hope the army of the faithful inspired.—E.

Let us make a simultaneous effort ;
And let our swords and arrows drink the blood of the foe."
Who was the first of the faithful who entered the battle ?
His name is related to have been Ardashir.
That instant did the celebrated Ardashir
Impel his rapid charger across the plain.
He leaped forward and suddenly penetrated the ranks of the enemy,
Grasping in his hand a steely spear.*
He stood on the plain with the javelin in his hand ;
He girt on his mail, and bound on his sword.
First the arrows rained on all sides :
The armour of the warriors was rent in the battle.
The world-illuminating sun was concealed :
Who could tell whether it was day or night !
The rays of day were obscured by dust,
Caused to rise where man struggled with man.
You would have thought the world was darkened with pitch,
In the midst of which the arrow points glittered like diamonds.
Of those who carried javelin and wielded mace,
But few remained of thousands.
Earth and sky were dark and obscured ;
The ground was painted like a tulip with blood of chiefs.
Blood flowed in fountains from the bodies of the slain :
Heads were cloven in pieces with the sword.
Calamity overtook the lives of men :
Each moment death received its guests.
The heroes were clothed from head to foot in iron :
The bright blood shone like the sun.
On each side incessant flew the darts :
The dark blood dropped on the plain continuously.
The javelins quivered in the breast of Kaus,
The life of Tarau's was reached through his mail.
From the blows of the heroes none turned away :
Every weapon demanded blood.
The earth was plated with the iron shoes of the horses :
It flowed with blood up to the knee.
Three days and nights thus continued the battle,
That the hands and feet of those who fought waxed weary.
On all sides glittered the lightning of the sword :
Heads were scattered before the trenchant blades.
In that contest Islam was overthrown :
It was cast down in the battle with the Raizada.

* What can be in more execrable taste than this, to describe the warrior putting on his mail after acquainting us that he had entered the battle ; that is the *υστρον ποτερον* indeed !!—E.

Alaf Khan fled in the darkness of night :
 He forgot both the road and order :
 All his army were discomfited.
 They fled from before the face of Ardashir :
 In the battle many of his enemies were slain :
 The issue of the contest was glorious.
 All his women and his equipments
 Fell together into the hands of Ardashir.
 Again the two armies shouted for the battle : *
 Earth was again filled with commotion
 By the ringing of bells, and the blast of the trumpet :
 Many heads were smitten with confusion.
 Again Alaf Khan prepared for the fight :
 The brazen drum was again in motion. †
 The noble leader Ardashir
 Again made his appearance in swift career.
 He cried to that excellent Prince—
 “ They are a hundred warriors to our one :
 Behold now our actions in this extremity,
 Since their army has re-appeared in greater numbers than before,
 We will either yield our lives or take that of our foes : ”
 We prepare for the battle with this resolve :
 In this fight may God befriend us,
 Since he always removes our difficulties.”
 At these words those who heard were glad,
 Many hearts were freed thereby from pain.
 They then all put on their armour
 And descended to fight with the Khan.
 Then the illustrious Ardashir
 Bound to his saddle the noose of war.
 He entered the ranks like a lion :
 On his waist was a sword of Hind, and a dart was in his hand.
 Loudly he shouted—O ye fugitives,
 Why are ye timorous in the day of battle !
 Where now is your leader ?
 What is his employment and name ?
 The chief of the foes appeared and said : “ I am he,
 Who spills in one blow the blood of my enemies.”
 Beneath him was a steed named Sulak.
 He came towards Ardashir swiftly :

* Here again the connection seems entirely lost, for we are not told how the army of Alaf Khan, so lately described as in utter rout, rallied and returned to the battle.—E.

† The original is—“ The drum, like a hawk, began to fly”—than which I do not recollect ever to have met a more inappropriate simile.—E.

He came to oppose him grasping a javelin :
On all sides he glared like a furious lion.
He shouted once to Ardashir—
“ Now, O noble foe, guard thine own,
For a combatant has come to fight with thee :
Now then display thy skill in war.”
Ardashir shouted to him in reply—
“ Thy equal in fight has come against thee also.”
They both fared in the battle like lions :
They were satiated with the blood of each other.
At last Ardashir obtained the victory :
He cast him down from the back of Sulak :
He cast his noose and drew him towards him :
He dismounted from his steed and cut off his head.
When Alaf Khan beheld him slain,
His heart was filled with grief.
He gave orders that the men of Fars and the Hindu Prince
Should be slain and not permitted to live.
His army followed him full of vengeance.
He spurred on his steed to the battle.
The clashing of the swords arose incessantly :
Blood was poured in streams on the earth.
When the two armies joined in battle,
Blood poured from their bodies like the sea :
Waves of blood arose.
On all sides was the destruction of men :
No place remained which could contain an ant.
But what can any one devise without the command of God ?
Then approached the termination of the life of Ardashir,
He fell, and the end of his days arrived.
A dart reached his waist,
And transfixd him suddenly.
His body was weakened with wounds,
For a fountain of blood spouted from each limb.
Ardashir fell headlong from his saddle :
His army became confused when they lost their leader.
Alas ! for that noble chief !
Destiny at last cast him down.
When evil fortune arises, in that season
The hard stone becomes soft as lead.
Had he fought with ten times greater vigour,
What could it avail him since his destiny was adverse ?
On both sides many warriors were slain—
The noble, the illustrious and the good.
Then fell too the blameless Hindu Prince :

The army was turned to disarray.
 Alas! for that excellent Prince :
 He fell, and his city became desolate.
 At last the army of the faithful was scattered.
 There is a mountain in Hindustan named Bharut ;
 Many fled thereto from terror of death.
 The order of God is irrevocable.
 Twelve successive years elapsed
 During which the royal fire itself was neglected.
 Then after a period by the command of God
 They set forward, themselves and their families :
 They carried with them the sacred flame of Bahram :
 They proceeded in the direction of Bansadah.
 When the people of Bansadah heard thereof,
 They came forward to meet them courteously.
 They arrived there with three hundred horsemen,
 And with many honorable men :
 They led them into the city with much respect.
 Thus was their grief alleviated.
 The city of Bansadah rejoiced at their arrival,
 And thus were they supported.
 Thereafter from that place the descendants of the faithful,
 From every clime where believers were to be found,
 Proceeded for the service of the Shah
 Both women and men, young and old.*
 As in former times in the celebrated Sanjan,
 Every tribe of believers flourished
 In the same manner afterwards in Bansadah :
 They arrived from all quarters with abundance of wealth.
 After this when fourteen years had elapsed,
 The Heavens became prosperous to them.
 In that time one among the faithful arose :
 There was none to equal him in those days.
 He appeared there, and exhibited righteousness :
 Many miracles were wrought by him.
 Dhewud† was his name, and he resembled the blessing of marriage,
 For he brought encouragement to the faithful.
 In the latter times that man of excellent qualities
 Renewed and extended the true faith :
 If any one had not the Kusti or the Sadra,
 He himself contributed the sums necessary to be expended—
 Well did he arrange the affairs of the faith :
 None ever came to him under affliction,

* The whole of this passage is very obscure, and appears corrupt.

† This appears to be a mistake ; for, as below, the name should be Dawar.

That he did not relieve his distress,
And did not afford consolation to his heart.
In those times many of the race of the faithful
Were confirmed in the faith by his means.
My tongue is unequal to the description
Of the advancement of religion to be ascribed to that man.
One year he thus formed a determination,
And proceeded to the fire-temple.
Then he prepared a feast
In the fire-temple of the city of Bansadah.
In the month of Azar and the day of Azar,
Was that feast held. O my brother !
With all the faithful and the Dasturs
That enlightened benefactor of the faith proceeded to the fire-temple.
In his sight all performed the Sijdah :
There they all performed worship.
Then one and all, with joy and gladness
Returned back from the temple.
Two or three months elapsed after this,
When that good person formed a design in his heart.
One day he assembled all the multitude
And spoke to them regarding that fire-temple :
He said—" I wish for the Sháh of Sháh's, from thence
I wish my friends to conduct him here.
If I daily see the countenance of the Shah,
Much benefit will be derived therefrom.
Besides, every year in journeying to the fire-temple,
I experience much pain, and that by reason of the distance ;
For in that month much rain falls
And much time is occupied in the journey :
Therefore my friends what is better than this
Than that I should go there with certain persons of discretion,
And bring the sacred flame of Bahram
That I may behold it daily :
Our dignity and fortune will be increased thereby,
And the hearts of the faithful will be made glad."
All rejoiced at his words
And proceeded thither from Bansadah.*
With much honor they brought the sacred flame :
They prepared for it a magnificent temple :
They did homage to the Shah of the true faith :†
They all accompanied the procession.
Day and night his worship was performed

* Above it is said they brought the flame of Bahram to Bansadah, which is evidently a mistake.—E.

† i. e. to Bahram.—E.

By those appointed to that duty.
 The name of the first was Nakin Ram :
 His actions were always those of piety.
 The name of the second Dastur was Kurshid ;
 His father's name was Kiyam-uddin Jawid.
 The third Dastur was Janiyan-ibn-i-Sair,
 Who was always attentive in devotional offices.
 Their families and their tribes were with them,
 They all attended on the Shah of Iran ;*
 With much zeal and ardour they abode in his service :
 They were established with much splendour and dignity.
 Those three Dasturs arrived at Nausari
 With all their tribes from the distant journey.
 And in those days the pious Dawar†
 Gave assistance to the worshippers of the true faith.
 I offer my blessing to him in this world,
 And may peace be his resting place hereafter !
 Unnumbered blessings and thanksgivings without end
 Be offered to God the cherisher of his creatures,
 That he directed my tongue in this fitting task,
 And by his mercy opened to me a concealed door
 May God in both worlds bless exceedingly
 The Dastur who revealed to me this tale.
 I am that poor person named Bahram,
 Whose dwelling is the town of Nausari.
 Know too, that my father is Kaikobad,
 And that his heart rejoices in the remembrance of the Shah of Iran.
 His father was the Dastur Hurmazdyar :
 May his place be in light among angels !
 Know, my friend, he bore the title of Sanjani,
 For he was instructed in all wisdom :
 From that wisdom he got the title of Sanjan,
 Since he showed knowledge in affairs of religion.
 They gave him also the name of the Dastur of the faith,
 All affairs connected with the faith were expounded by him.
 His abode was in the city of Nausari.
 If you reckon you will find two hundred years have elapsed from his
 time.
 A hundred thousand blessings and laudations be upon him
 And on all those who accept the faith !
 By the blessing and the command of God
 I have thus related the history of this family of men.

* i. e. on the flame sacred to Bahram.

† A layman, particularly skilled in the Law, and observant of religious rites.—W.

When the men of the faith read it,
 This work will bring a blessing upon me,
 May more than hundreds of thousands of blessings rest
 On that good person! benefactor of the world.*
 May Anoshirvan return my spirit,
 And obtain pardon for my soul from Yazdan!
 Praise be to his spirit everlastingly—
 Everlasting joy attend his soul!
 Nine hundred and sixty-nine years have elapsed of the era of Yaz-
 dejird.†

Now that this history has been recorded by the pen;
 In the month of Farwadin, and the day of Khurdar,
 These verses were completed aright.
 I have written and finished this history:
 By this undertaking I have sought the favour of God.
 I pray a blessing from the reader of this book
 That my earth by water may be purified thereby.
 May his soul with mine go to Anoshirvan,
 That whatever be his will may befall me.
 I have related this history according to my knowledge,
 As I have heard it from my ancestors.
 I have accomplished this work unaided by any instructor,
 And thus have the flowers of this garden been reared.
 (Lord of bounty a fortunate age)‡
 Gives the year of this work and it was written in spring.
 When I looked on this story I said within myself,
 On considering this account of the faithful,
 O reader, when you look on this good performance,
 Pay to me the applause that is due.
 Praise without end and countless thanksgivings
 Be on Yustast the pious!
 And may this favor be granted in thee by the mercy of God,
 That you give to my soul the blessings of eternity!

Here ends this tale of Khurásán.

The end of the book.

On the day of Wah-minu-asman, in the month of Ardibihisht, in the
 latter end of the eleven hundred and twenty-ninth year of Shah Yaz-

* i. e., Zartusht.

† This fixes the date of the *Kinsh-i-Sanjan*, at 1699, A. D.—W.

‡ This is the date by letters—a sacred age observed by Persian writers.

dejird, in the season of winter,* was written this book by the benever in the faith, the slave of God, the Mobad and son of a Mobad Darab, son of Faramurz, son of Minuchihr, son of Garshasp. From the reader a blessing is asked for me who am a sinner.

E. B. EASTWICK, Lieut.

Mahabaleshwar, March 16, 1842.

* This is the date of the transcription, A. D. 1759.

ART. V.—*Notes accompanying a Collection of Geological Specimens from Guzerat. By Professor A. B. ORLEBAR.*

To the Curators of the Bombay Museum.

GENTLEMEN,—IN hopes that the accompanying collection of rocks from Guzerat may facilitate further researches, I beg to submit them to you with the following notes and section, without which they will be nearly valueless.

The district from which principally they are collected is that known to the natives by the name Charotra, which is bounded on the west by the Suburmuttee, on the south by the Gulph of Cambay, and on the east by the Mhye. A line from Ahmednuggur to Morassa, curved northwardly, bounds the district whence my collection is made. The surface is one vast plain, which is bordered by hills, which, commencing north-east of Ahmednuggur, run in a semicircular direction through Roopal, Morassa, Malpur, Verpur, and (as I am informed) to Balasinor.

These hills are composed of sandstones and quartz rock in horizontal strata. The tops of them appear all to be on one level, and ascending one which embosoms the town of Malpoor, I seemed to be on a table land, stretching out in every direction, but broken up into countless patches. The sides of these hills are always steep, rising in cliffs from the level plain below. I did not visit Virapur or Balasinor; but from my extensive view at Malpur, and from the identity of all which I examined south of that place, I do not doubt but that all the specimens from hills in that direction will belong to the same series.

The lower beds of this formation are exposed in the beds of the

streams, which are very deep, and expose very fine sections of this sandstone, as in the Hautmuttee at Ahmednuggur, and in the Wartuck at Mohunpur.

The different beds are of very various structure. The upper beds are generally a very compact quartz rock (I. 1.) The hills north of Mehdasan (between Roopal and Morassa) are entirely composed of this, and about one hundred feet high. The stratification is, as usual, horizontal, but the beds have been divided by cleavages inclined to the south, at an angle of about 70° , so as to give every appearance of highly inclined stratification. The hill at Bakrol is also very high and is entirely of the quartz rock; and one cliff shows a beautiful veining of a lighter coloured quartz. At Malpur is exposed, in a quarry and hill, quartz beds, sandstone beds, again quartz, and again sandstone. The lower sandstone is of various colours, various hardness, and in beds of various thickness. It frequently abounds in mica, so as to approach the character of mica slate. But these beds are all small grained. It is sometimes beautifully variegated. It occurs variegated also at Pooral, (a village between Mohunpoor and Ahmednuggur,) and also at Ahmednuggur, where it is underlain by a deep red sand, containing little pebbles of quartz. At this place also the variegated sandstone overlies quartz rock. Above the town the fine sandstones are overlain with coarser sandstones approaching the character of conglomerates. And at Rhupal we find a very coarse large conglomerate composed entirely of quartz fragments and pebbles. At Mohunpoor the quartz rock alternates with the loose red sand. These facts are sufficient to show that this great formation of sandstones, conglomerates, and quartz rocks, in which quartz and mica are the only apparent minerals, is very various both in character and order.

The whole of this formation is covered with the sand which forms the soil of the Charotra. It abounds in mica. It is generally quite loose, without a pebble in it. In the southern part of the Charotra the sections of the rivers expose no other formation. The banks of the Mhye, composed of it, are more than one hundred feet high. Its stratification is generally horizontal, but its lower strata in the cliffs of the Mhye at Dewan are highly irregular and contorted. Between it and the older sandstone above described, there is at Ahmednuggur a gravel bed containing fragments of quartz, and at Mohunpoor its lower bed, immediately over the quartz rock, is full of similar large fragments.

This upper sand also surmounts the trap at Mohunpur and Hursole. At the former place the upper strata are, a loose sand horizontal, then horizontal beds of conglomerate, and, lastly, irregular strata of sand containing pebbles, filling up the hollows in the depressions of the trap. At Hursole also the lower strata are a coarse conglomerate.

Trap occurs also at Satimba, where it is covered with the black soil. This is the only spot in which I found black soil, excepting near the banks of the Mhye.

From enquiries I made with regard to wells, I am inclined to suppose that the black soil alternates with the sand. But the black soil certainly overlies the upper or newer sand on the banks of the Nurbudda above Broach. It may be as well to observe here, that this upper sand and the black soil forms the surface not only of the Charotra but of the whole low land from Wallah to Dhanduka below the Kattiawar high lands, of the flat eastward of Ahmedabad to Verumgaum, and of the district between the Mhye and the Taptee.

Granite is exposed at Morassa, and is overlain by the newer sandstone, whose lower strata are a very coarse conglomerate of trap pebbles.

Mica slate is exposed in a stream between Mehdejan and Bakrol.

One rock only remains to be described. It is a rock of very various appearance, on which the town of Caparwanj is built. The specimen is exactly the same as the one in my possession of the laterite in the southern Mahrathi country between Belgaum and Dharwar.

The point, however, most worthy of the attention of geologists, is the existence of veins of lime. These veins reticulate, in every direction, the trap and the older sandstone, but never enter the newer sandstone. At Hursole and Mohunpur, the veins which come to the surface are cut off when they meet the sand. The sand immediately overlaying the trap abounds with kankar pebbles. These pebbles are not like those distorted concretions which are found elsewhere in India, and seem formed by the lime around roots, &c. &c., but are little rounded pebbles. They are found throughout Guzerat, both in the sand and in the black soil. The horizontal veins are generally the thickest.

The veins which pierce the older sandstone have so united with

the red sand, as to give all the appearance of brick and mortar. At Mohunpur they had thickened under the quartz rocks. At Ahmednuggur, under the town, the sandstone beds are bent upwards in a curve; below them are sandstone beds in their usual horizontal position; and between them, filling the space thus formed, is a mass of lime.

Returning to the trap at Hursole, broad veins, approaching the character of dykes, terminate in beds of lime which contain fossils. The fossils are a *melania*, *planorbis*, *limnea*, and *cyrene*. These beds are near the river in a spot where the upper sand has been removed. They in some places contain large pebbles of trap; in some places they have the character of travertin.

Gogo.—Gogo is built of a conglomerate which is found on the shore. A good section is exposed south of the town, and from the only fossiliferous bed of this the specimens were taken. Conglomerates and sandstones alternate. The sandstone between Gogo and Rutnapoor, a village to the S.E. of Gogo, contains selenite. The soil around Gogo is a loose dark soil, abounding with fragments of the conglomerate. This soil is bounded on the north west by a low range of trap hills, a little south of the village of Seedeysir. It is so deep that an exposure of fifty feet does not show its depth between Gogo and Booleysir; but, towards the above-mentioned hills, it lies upon trap, and thins off to a thickness of a few inches. This trap is penetrated by lime veins, one of which I traced upwards into the conglomerate soil. The conglomerate soil is interrupted at Booleysir, by a red and white rock, which is sometimes stratified, and which is continued in hills of iron gravel to near Boodeil.

Seedeysir to Warteg is trap, with veins of lime, which, in one spot near Warteg, unite, so as to have the appearance of broad white dykes in the dark rock.

In the vast plain of black soil, which extends from Warteg to beyond Dhanduka, rises an isolated group of granite hills: they are known as the Chamardi Hills. All which I observed was granite; but Mr Jordan of Ahmedabad gave me the specimens of slate which he took from the westernmost hill. Low on the flanks of the granite hills lie, in highly inclined strata, beds of sandstone, composed evidently from the granite. In one of these beds I found tubes of

limestone reticulating the surface, and passing downwards in all p without order, but all connected.

The bed of the river at Balawarra is composed of limestone, w lies in masses in the neighbouring black soil.

I observed no other rocks in my route on the western side of Gulph of Cambay. From Dhanduka to Koth, the road is over singular marsh land which extends from the Gulph of Cambay to Runn of Cutch. From Koth the vast upper sand of the Charotra mences.

On the eastern side of the Gulph, from the Mbye to the Taptee same deep sand of the Charotra is overlain frequently by black and in one spot only did a rock make its appearance: this was betw the Nurbudda and the Keem. It seems a sandstone.

The Rajpeele Hills are seen from Broach, and I thought it w a day to examine the site of the famed cornelian mines. The trad them has become lately so unprofitable that the mines have been g up, and the excavations have been nearly filled up, so that I had opportunity of examining the strata. The surface of the hills in w they are situated are so disintegrated, that I could form no opinio to the nature of the rock. As the specimens shew, it is a kind of glomerate; but from the shape of the hills, I should account them volcanic origin. The plain below is covered with a gravel wh appears of the same character as the disintegrated conglomerate. T plain, as far as the Nurbudda, is beautifully undulated by little h which abound in iron.

Below the cornelian hill is the village of Ratnapoor, and in the of the river is exposed a section of conglomerate and sandstone be They are inclined at an angle of 70° ; and, as the section is exposed several hundred yards, must be a portion of a very vast formati The dip is north by west. The lowest beds are a fine marl, wh contained a large angular fragment, of which A. R. is a part. C of the beds contained the bodies J. C. The beds are intersec by vertical veins of lime. Two of these veins, which were so inches broad, I took to be small trap dykes; but on examination th also have proved to be lime with alumine.

REMARKS ON THE ABOVE SPECIMENS.

It would be premature to offer many remarks on the structure of the above low country surrounding the gulph; but perhaps a few conjectures may not be useless to future enquirers.

That the cessation of the cause or causes which produced the lime-veins may be regarded as an epoch in these rocks, there can be no doubt. The lime-veins penetrate the trap, the older sandstones, the conglomerates, and conglomerate soil of Gogo, and the conglomerates of Ratnapoor; but never enter the newer sand and conglomerate of the Charotra, or the gravel of Ratnapoor. This is observed not in a place here or there, but it may be seen in innumerable localities, so as to be quite a striking characteristic of the rocks. That subsequently the trap was exposed to considerable action from water is also evident from the conglomerates of trap pebbles which form the lower strata of the newer sand, whatever rock it may happen to overlie. And also in the lower strata of the newer sand, trap pebbles are common mixed with pebbles of kankar, which are so abundant as to supply the country with lime exclusively. These pebbles, I repeat, have no similarity to the concretionary kankar of the Deccan and Concan: they are strictly pebbles. The mass of the sand itself may have been formed from the older sandstone and granitic rocks, which, like the sand in question, are characterized by a peculiar abundance of mica. These considerations seem to prove that the newer sand was formed by a diluvial action upon the trap sandstone and primitive rocks.

But having shewn that the lime-veins are older than the newer sand, it follows that the little lime-beds at Hursole are also newer. And since these lime-beds contain river shells,—of which certainly some, and probably all, are identical with those now existing in the rivers of Guzerat,—it follows that the sand is pretty certainly very recent. And further, since there must, at the time of those shells being imbedded, have been rivers in Guzerat,—and since the sand appears to have been formed by a sea, it follows that the present state of things in Guzerat must have been interrupted by a flood. The great irregularity of the lower strata of the sand seems to shew that the flood was most tempestuous; and the absence of organic remains shews that no mollusca could endure it.

With regard to the origin of the lime-veins, the travertine structure of the lime at Hursole seems to prove that it is a deposit from a mineral spring; and that it does originate from below, I am led to believe, 1st, By the great thickness of the horizontal veins in the trap compared with that of the vertical veins; 2d, By the appearance above described at Ahmednuggur; and 3d, By its abounding in the lower soft strata of the older sandstone, but never penetrating the upper harder strata under which the veins frequently accumulate.

The upper sand never contains any fragments or pebbles of the Caparwanj or of the Rattanpoor red conglomerate; I conclude, therefore, that these iron formations are more recent. The Caparwanj rock is very various in appearance, but many specimens are identical with those of the southern India *laterite conglomerate*. This laterite conglomerate occurs in veins in the pass through the sandstone ridge between Badamee and Dharwar; and the Caparwanj rock, in many places, has all the appearance of lava streams.

If the Rattanpoor conglomerate is also volcanic, it will account for the highly inclined strata of the conglomerates, which will probably be found identical with the Gogo fossiliferous strata on the other side of the gulph.

The older sandstone may be identical with that described by Mr Fraser (Geol. Trans., vol. i., new series) as occurring at Bhaug; with the sandstone of Bundelcund, described by Captain Franklin; and with the diamond sandstone ridges of the south. They all rest on the primitive rocks, are all unfossiliferous, all have beds in which quartz predominates, and all seem to present the same scenery, indicating their having been subjected to similar action.

The whole system, then, I conjecture to be as follows:—The primitive rocks existing, trap rocks completed the general character of the country as it now exists. The older sandstone was deposited, raised, and subjected to eroding causes. The fossiliferous beds of Gogo, and the conglomerate of Rattanpoor, were formed by the Narbudda and other rivers carrying down detritus and fossils into the gulph. The lime veins formed. The newer sand and black soil formed by a flood. Lastly, volcanic eruptions through Caparwanj, Beerpoor, and forming the Rajpeepla hills.

The connection between the trap and the older sandstone might be

easily determined at Mohunpoor, were coolies employed to remove the rubbish which now covers their juncture. It is possible also, that, in this place, lime-veins may be traced from one of these rocks into the other.

The conglomerates at Rattanpoor should be carefully examined. Fossil beds will probably be found.

The Perim beds have never yet been so examined, as to determine certainly whether the fossils are in situ.

The hills at Balasinor and Beerpoor should be examined, in order to connect the above described specimens with those described by Mr Hardie, Asiatic Researches, vol xviii. p. 82.

The existence of the species of river mollusca found in the lime of Hursole, whether all be now alive in the river, should be carefully inquired into. I have deposited, in the Museum, specimens of the melania which I found in the river at Warteg; but I did not find them alive. The limnea appears, certainly; and so also the planorbis, to be the same as those now living. Shells of the cyrene are common in the rivers; but I found none alive, although I was informed that they live under stones in the shallows of the Nerbudda. It is remarkable that neither the common unio nor the common paladina, which both abound now in the rivers of Guzerat, was discoverable in the Hursole lime-beds.

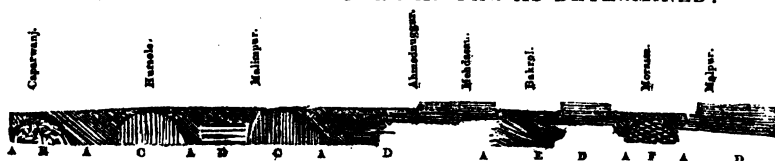
I have the honour to be, Gentlemen,

Your's, &c.

BOMBAY, April, 1842.

A. B. ORLEBAK.

SECTION OF THE CHAROTRA AS FAR AS DETERMINED.



AAAAAAA Upper Sand.
B Limestone conglomerate.
CC Trap.

DDDD Lower Sandstone.
E Mica Slate.
F Granite.

VI.—*Note on the Ram Ghat. Communicated by Professor A. B. ORLEBAR.*

VIEWED from the top of the Ram Ghat, the summits of the highest neighbouring hills appear on a level with one another and the observer, and seem to have formed one table-land continuous with the plain of trap on which Belgaum is situated ; but which are now separated from one another by deep and precipitous ravines. These summits are all tabular, but between and in the midst of them are lower hills whose summits are conical. All, however, are nothing but the broken edge of the great Deccan table, which rises here in a steep escarpment from the plain of the Konkan, throughout the line marked by geographers as the Western Ghats, but no where more remarkably than in this spot.

Along the plain of the Konkan, from Vingorla to the foot of the Ram Ghat, are found in succession granite overlaid by laterite, laterite interrupted by mica schist and hornblende rock, and lastly hornblende rock. It is to be observed that the hornblende rock at the base of the Ghat is horizontal ; but that in other spots it is inclined at an angle of 30° to the south.

After leaving the hornblende-rock, I commenced the ascent of the ghat over a hill of trap : the road is there cut through successive beds of hornblende rock and gneiss until near the summit, when it finishes with trap.

The beds of hornblende-rock and gneiss are thirty in number, and alternate. The dip is towards the west, at an angle of about 60° .

The gneiss is remarkably deficient in mica ; although, in the first and lowest bed, there are some few strata of mica slate. The felspar is in general white, but is sometimes flesh coloured. The quartz is either white or smoky. The rock is frequently in so crumbling a state as to have more of the appearance of a sandstone than of gneiss. The third bed contains much green earth.

The hornblende rock is universally very fine grained, except in one series of strata, which form a subordinate bed in the last bed, which is of great thickness ; and here the hornblende is fibrous. The fourth bed contains flesh coloured crystals of felspar. The tenth bed is not a foot thick. There are singular contortions in the twenty-fourth bed. The junction of the gneiss and trap is very apparent at the lowest bed which is exposed at the higher part of the ghat. The latter first appears under amygdaloid, which is decomposing in globes ; the

trap is then interrupted and gneiss is the superficial rock ; and a few yards farther, is a single globe of basalt resting on the top of the gneiss strata. Also in the same bed of gneiss, some yards further, a dyke of trap cuts the strata which it has slightly disturbed.

SECTION OF THE RAM GHAT.



METEOROLOGICAL OBSERVATIONS, BOMBAY MAGNETIC OBSERVATORY.

31st JANUARY, 1842.

Bombay mean time.	Hours.	Standard Barometer.	Thermo.		Thermo.		Barometer. Corrected.	Wind.	Remarks.
			Attd.	Shd.	Dry.	Wet.			
6	A. M.	29.970	75.2	75.2	75.0	69.0	29.937	N.	Clear, with cirrostratus.
7	..	.976	73.6	73.6	74.0	67.0	.848	N. by E	Cumuli.
8	..	0.002	75.5	75.5	75.1	7.9	.811	N. N. E.	% Cumulostratus.
9	..	.034	78.8	79.5	79.5	18.9	.893	..	1 Cirri and Cirrostratus.
9½	..	.034	79.5	80.5	80.5	68.9	.891	E by N	..
10	..	.034	80.0	81.3	81.5	68.5	.890	N.	..
10½	..	.026	81.6	81.5	80.8	68.5	.877	N. by E.	..
11	..	.000	80.2	80.0	79.9	70.0	.855	N. N. W.	Clear, breeze fresh.
0	..	29.984	80.5	80.4	80.7	70.4	.839	N. W.	..
1	P. M.	.950	80.8	80.6	80.5	72.0	.884	..	1 Cirri and Cirrostratus.
2	..	.934	81.0	80.7	80.6	72.0	.788	..	..
2½	..	.924	81.2	80.8	81.0	73.0	.777	..	..
3	..	.920	81.2	81.0	81.0	71.8	.773	..	..
3½	..	.920	81.2	81.0	81.0	71.1	.773	..	..
4	..	.928	81.2	80.8	80.5	72.0	.781	..	..
4½	..	.934	81.0	80.6	80.0	71.5	.788	..	Strong Breeze.
5	..	.936	80.8	80.2	80.0	70.5	.790	..	1 Cirrus and cirrostratus.
5½	..	.936	80.0	79.8	79.5	69.5	.793	..	..
6	..	.930	78.8	78.5	78.2	70.0	.790	..	1 Cirrostratus. strong breeze.
7	..	.950	78.8	78.0	78.0	69.0	.810	..	1 Cirrus, strong breeze.
8	..	.960	78.5	8.0	77.8	72.0	.821	..	Clear, with strong breeze.
9	..	.966	78.2	77.4	77.2	67.2	.848	..	1 Cirrostratus in the west.
9½	..	.996	77.9	76.4	76.0	64.2	.859	..	Gentle breeze.
10	..	.996	77.5	76.1	75.8	64.8	.860	..	..
10½	..	.986	77.0	76.0	75.6	65.6	.852	..	..
11	..	.970	76.8	75.8	75.6	66.8	.836	..	..
0	..	.966	76.5	75.5	75.4	77.5	.832	..	Nearly calm.
1	A. M.	.958	76.5	75.5	75.4	68.5	.825	..	Fresh breeze.
2	..	.950	75.2	74.0	73.6	67.0	.820	..	Gentle breeze.
2½	..	.940	74.9	74.0	73.6	68.0	.802	..	..
3	..	.934	74.5	74.0	73.6	68.5	.803	..	..
3½	..	.930	74.1	74.0	73.5	69.0	.805	..	..
4	..	.930	74.0	74.0	74.3	69.0	.806	N. W.	Strong breeze.
4½	..	.730	74.5	74.0	74.0	67.5	.801	..	..
5	..	.930	74.5	74.0	74.5	66.3	.803	..	..
5½	..	.930	74.0	73.6	72.8	64.0	.804	..	..

21st FEBRUARY, 1842.

Hourly Mean Time.	Hours.	Standard Barometer.	Thermo.		Thermo.		Barometer Corrected.	Wind.	Remarks.
			Amb.	Dew.	Dry.	Wet.			
6	A. M.	29.500	74.6	71.5	73.2	51.6	29.773	Calm.	Calm.
7	74.8	74.4	74.0	67.6	..792	N. N. E.	Gentle breeze.
8	74.3	76.4	75.8	66.7	..811	N. E.	..
9	77.8	77.3	77.1	7.9	..819	..	..
10	78.9	79.1	78.5	37.5	..826	..	..
10½	79.9	80.1	81.1	70.0	..833	..	..
11	81.0	82.9	80.0	69.0	..814	N. W.	..
11½	P. M.	..	81.0	81.2	80.3	64.3	..800	..	..
12	82.0	82.5	82.3	59.0	..781	..	..
1	82.5	82.1	81.7	72.5	..755	..	..
2	82.9	82.0	82.5	74.2	..728	..	..
2½	..	Lost.	..	..	..	..	..	..	..
3	83.3	82.9	82.7	74.0	..706	..	..
3½	83.2	83.1	83.0	73.5	..703	N. W.	Almost clear.
4	83.3	82.9	82.5	73.7	..701	..	..
4½	83.2	82.5	82.4	73.5	..687	..	..
5	83.0	82.6	82.3	73.2	..696	..	..
5½	83.5	81.2	80.3	72.9	..702	..	Clear, with gentle breeze.
6	83.4	81.4	80.2	72.5	..715	..	..
7	81.0	79.7	79.0	72.5	..732	..	..
8	80.0	78.5	78.2	71.4	..759	..	Fresh breeze.
9	79.6	78.3	77.7	71.9	..766	..	..
9½	79.4	77.9	77.3	71.9	..776	..	Nearly calm.
10	78.9	77.2	76.8	70.6	..782	..	..
10½	78.8	77.5	77.0	71.0	..778	Calm.	Calm.
11	78.5	77.5	77.0	71.0	..779	..	..
11½	78.7	77.0	77.0	70.0	..772	..	Clear and calm.
12	77.5	76.5	76.2	70.0	..753	..	..
1	77.5	76.0	76.4	68.5	..749	N. W.	Gentle breeze.
2	77.0	76.0	76.0	68.5	..741	..	..
3	77.0	76.0	76.0	70.0	..786	..	..
3½	76.5	75.8	75.4	70.0	..786	..	½ Clear gentle breeze.
4	76.5	75.5	75.0	70.0	..786	..	..
4½	76.5	75.5	75.0	70.0	..787	..	..
5	76.1	75.4	75.0	71.0	..785	..	..
5½	A. M.	..	76.0	75.4	75.0	71.0	..741	..	..

21st MARCH, 1842.

Hourly Mean Time.	Hours.	Standard Barometer.	Ther.		Thermo.		Barometer Corrected.	Wind.	Remarks.
			Amb.	Dew.	Dry.	Wet.			
6	A. M.	29.876	77.0	76.8	76.2	73.1	29.742	N. E.	½ Cirri and cumuli.
7	76.5	76.0	75.5	71.5	..757	..	..
8	77.5	78.2	77.9	72.2	..780	N. E. E.	Clear, light breeze.
9	79.0	80.0	79.0	73.0	..786	E.	..
9½	79.9	80.9	79.9	73.2	..783	..	..
10	80.8	81.8	81.0	73.8	..782	..	..
10½	81.5	81.5	81.5	73.8	..778	..	Clear, with cumuli in the
11	81.5	82.2	80.5	73.0	..764	W.	cumuli in the
11½	P. M.	..	81.1	80.5	80.5	73.0	..753	..	..
12	81.3	81.0	81.0	74.0	..739	..	..
1	81.0	81.5	81.5	74.5	..699	..	..
2	82.1	81.7	82.0	74.5	..691	..	..
2½	82.5	82.3	82.4	74.1	..681	..	..
3	82.7	82.3	82.5	74.9	..675	..	..
3½	82.5	82.3	82.0	74.6	..673	..	..
4	82.2	82.0	81.0	73.0	..674	W. by N.	..
4½	81.8	81.5	81.5	73.7	..675	..	..
5	81.4	81.1	81.0	74.9	..692	..	..
5½	81.2	80.5	80.0	74.0	..701	N. W.	Fresh Breeze.
6	80.5	79.2	79.0	73.6	..711	..	..
7	80.0	79.1	79.0	74.0	..737	..	Gentle Breeze
8	80.5	79.0	78.9	74.2	..757	..	..
9	79.9	78.9	78.5	74.0	..757	..	..
9½	79.8	78.7	78.7	73.9	..757	..	..
10	79.5	78.5	78.0	73.6	..758	..	..
10½	79.4	78.4	77.8	73.6	..768	..	..
11	79.0	77.5	77.0	73.0	..746	..	Nearly calm.
11½	A. M.	..	78.7	77.2	77.0	73.0	..735	Calm.	Calm.
12	78.5	77.3	77.0	73.0	..737	..	..
1	78.4	77.3	77.0	73.3	..719	..	With cumuli in the W.
2	78.2	77.3	77.2	73.5	..720	..	½ Cloudy.
3	78.2	77.3	77.2	73.8	..730	N. W.	..
3½	78.2	77.3	77.2	73.8	..732	..	..
4	78.2	77.3	77.5	73.2	..732	..	..
4½	78.2	77.5	77.1	73.2	..732	..	..
5	78.2	77.0	76.8	73.0	..729	N.	..
5½	78.1	76.2	75.8	72.7	..728	..	..

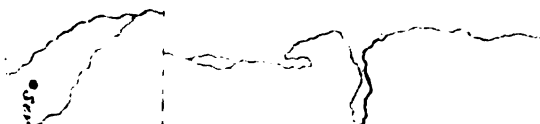


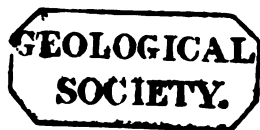
21st FEBRUARY, 1842.

Bombay Mean Time.	Hours.	Standard Barometer.	Thermo.		Thermo.		Barometer Corrected.	Wind.	Remarks.
			Attd.	Deid.	Dry.	Wet.			
6	A. M.	29.500	74.6	74.2	73.2	61.6	29.773	Calm.	Calm.
7	74.5	74.4	74.0	67.6	..	N. N.E.	Gentle breeze.
8	74.2	74.4	75.8	66.7	..	N.E.	..
9	77.8	77.5	77.1	74.0	..	..	..
9½	78.9	79.1	78.5	77.5	..	..	..
10	79.9	80.1	81.1	70.0	..	..	..
10½	81.9	82.9	80.0	69.0	..	N.W.	..
11	81.0	81.2	80.5	68.0	..	..	..
0	P. M.	..	82.0	82.5	82.5	69.0	..	..	..
1	82.2	82.2	81.7	72.8	..	..	..
2	82.9	82.9	82.5	74.2	..	..	..
2½	..	Lost.	..	..	..	..	..	..	..
3	83.0	82.9	82.7	74.0	..	..	..
3½	83.2	83.1	83.0	73.8	..	N.W.	Almost clear.
4	83.4	83.3	82.5	73.7	..	..	..
4½	83.2	82.7	82.4	73.3	..	..	..
5	84.8	83.0	82.6	73.2	..	..	..
5½	85.4	82.5	81.2	68.0	..	..	Clear, with gentle breeze.
6	86.6	82.4	81.0	72.5	..	..	..
7	87.8	81.0	79.7	72.5	..	..	..
8	90.1	80.0	79.6	71.4	..	..	Fresh breeze.
9	90.8	79.6	78.3	71.6	..	..	..
9½	91.6	79.0	77.9	71.9	..	..	Nearly calm.
10	92.2	78.9	77.2	70.8	..	..	..
10½	91.8	78.8	77.5	71.0	..	Calm.	Calm.
11	91.8	78.6	77.6	71.0	..	..	..
0	91.0	78.2	77.0	70.0	..	..	Clear and calm.
1	89.0	77.6	76.2	70.0	..	..	..
2	87.6	77.5	76.0	68.5	..	N.W.	Gentle breeze.
2½	87.6	77.2	76.0	68.5	..	..	..
3	87.0	77.0	76.0	70.0	..	..	..
3½	87.0	76.5	75.8	70.0	..	..	½ Cirri gentle breeze.
4	87.0	76.5	75.5	70.0	..	..	..
4½	87.0	76.5	75.5	70.0	..	..	..
5	87.0	76.1	75.4	71.0	..	..	..
5½	A. M.	..	87.0	76.0	75.0	71.0	..	..	..

21st MARCH, 1842.

Bombay Mean Time.	Hours.	Standard Barometer.	Ther.		Thermo.		Barometer Corrected.	Wind.	Remarks.
			Attd.	Deid.	Dry.	Wet.			
6	A. M.	29.876	77.0	76.8	76.2	74.1	29.742	N.E.	½ Cirri and cumuli.
7	76.5	76.0	75.5	71.5	..	..	..
8	77.5	76.2	77.9	72.2	..	N. E. E.	Clear, light breeze.
9	79.0	80.0	79.0	73.0	..	E.	..
9½	79.9	80.9	79.9	73.2	..	..	..
10	80.8	81.8	81.0	73.8	..	..	..
10½	81.5	82.5	81.5	73.8	..	..	Clear, with cumuli in the W.
11	81.5	82.2	81.5	73.0	..	W.	cumuli in the N.
0	P. M.	..	81.1	81.0	81.0	74.0	..	..	..
1	81.3	81.5	81.5	74.8	..	..	..
2	81.8	81.7	82.0	74.5	..	..	..
2½	82.1	82.5	82.4	74.1	..	..	..
3	82.5	82.3	82.5	74.4	..	..	..
3½	82.7	82.1	82.0	74.6	..	..	..
4	82.1	82.5	82.3	75.0	..	W. by N.	..
4½	82.4	82.2	81.5	75.7	..	..	..
5	82.4	81.8	81.0	74.9	..	..	..
5½	84.0	81.5	81.0	74.0	..	N.W.	Fresh Breeze.
6	84.8	81.2	80.5	73.6	..	..	..
7	85.6	80.5	79.2	74.0	..	..	..
8	87.0	80.0	79.1	74.0	..	..	Gentle Breeze
9	90.0	80.4	79.0	74.0	..	..	..
9½	90.0	79.9	78.9	74.2	..	..	..
10	90.0	79.8	78.7	73.9	..	..	..
10½	90.0	79.5	78.5	73.6	..	..	..
11	90.0	79.4	78.4	73.0	..	..	..
0	A. M.	..	88.6	79.0	77.5	73.0	..	..	Nearly calm.
1	87.4	78.7	77.2	73.0	..	Calm.	Calm.
2	86.8	78.5	77.3	73.0	..	..	..
2½	85.8	78.4	77.3	73.2	..	..	With cumuli in the W.
3	85.8	78.2	77.5	73.5	..	..	½ Cloudy.
3½	85.3	78.2	77.5	73.6	..	N.W.	..
4	86.0	78.2	77.5	73.8	..	..	..
4½	86.0	78.2	77.5	73.2	..	..	..
5	86.0	78.2	77.0	73.0	..	N.	..
5½	87.0	78.1	76.2	72.7	..	..	..





JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

APRIL, 1843.

ART. I.—*Note on Allore and Rohri.* By Lieut. E. B.
EASTWICK.

The country of Sindé presents but a scanty field for the researches of the Antiquarian, and but few monuments which could prove of use to the writer of history. Though traversed by the classic waters of the Indus and trodden by the armies of every invader of Hindustan, scarcely any work of bygone ages reminds the traveller of the past, or aids him in removing the obscurity in which the early history of this region is enveloped. Even the site of the once most celebrated cities of Sindé is disputed, and though perhaps but eight centuries have elapsed since the prosperity of Allore and Brahminabad was at its height, no record of their inhabitants is left; and vague tradition alone informs us that the mouldering heaps we now behold, were once the abode of thousands, and the seat of empire. In the Chachnámáh and Mausumnámáh we find no account of the ages which intervened between the invasion of Alexander and the conquest of Sindé by the generals of the Caliphs, except indeed a few names of kings and some puerile legends. We are left without any guide as to the natural changes which must have happened in that lapse of time, and which, if we may argue from what has occurred more recently, must have been of no common magnitude. It is therefore vain to speculate on the ancient geography of the tracts bordering on the Indus, and to build on conjectures which must be purely arbitrary. With reference however to Allore, once the capital of the Hindú Rájás who governed Sindé,

some scanty information may perhaps be collected, and among other things it appears possible to fix the date on which the Indus abandoned that ancient city and directed its course into a new channel between Rohri, and Sakkar. In the small island of Khwaja Khizr, nearly opposite Rohri, is a masjid whose appearance bespeaks antiquity. In this building is the following inscription :—

چون این درگاه والا شد هویدا خضر با خط شیرین در نوشت
که آب خضر دارد در حوالی پی تاریخش شد از درگاه عالی
۳۴۱.

When this Court was raised, be it known, Khizr wrote this in pleasing verse
That the waters of Khizr surrounded it. Its date is found from the Court of
God.

If this date ۳۴۱ be correct, the masjid was erected in the year 952 A. C. about 250 years after the Muhammadan invasion of India. The mistake, if there is any, is intentional, for the literal date corresponds to that of the figures. Thus :

د	=	4	} درگاه عالی
ر	=	200	
ت	=	20	
ا	=	1	
ز	=	5	
ع	=	70	
ا	=	1	
ل	=	30	
پ	=	10	
<hr/>			
341			

But the inscription is corroborated both by tradition and by other circumstances which present themselves to the local inquirer. The popular legend tells us, that a shepherd named Bájee, whose hut stood where the Mahal of Bájee, one of the divisions of the town of Rohri, now stands,

observed at night a bright flame burning at some distance from him. Thinking it had been kindled by travellers, he sent his wife to procure a light from it, but as often as she approached it vanished. She returned and told her husband, and he disbelieving her report, went himself and then discovered that it was indeed a miraculous manifestation. Awe-struck with what he had seen, he erected a Takea on the spot, and devoted himself as a fakir to the religious care of the place. Soon after this, the Indus altered its course, and abandoning the walls of Allore encircled the ground on which the Takea of Bájee stood, and which is now called the island of Khwāja Khizr.

There is another story to be found in the Chachnámáh which relates that the Rájá of Allore was desirous of possessing the beautiful daughter of a merchant who resided in his city. The unhappy father, unable to oppose the wishes of the king, entreated that a respite of eight days might be allowed to him, and having spent that time in fasting and prayer, he was miraculously conveyed with his daughter and all his wealth to the island of Khizr, the river at the same time deserting the city of Allore, which was thus doomed to desolation for the tyranny of its king.

However the truth of these tales may be, the existence of the legend gives strength to our belief in the genuineness of the inscription. We find too, that among the tombs in Rohri and Sakkar, though for the most part they are of the age of Akbar, there are some whose antiquity ascends nearly to the date in the inscription given above. In the island of Sati opposite the fort of Bakkar is an inscription to this effect.

آن بهر فن یگانہ و کامل	میر والا نژاد سعید الدین
جنت عدن ساخت کہ منزل	دل از این خاکدان گرفت اورا
شد الفر دوس میر صاحب دل	سال فوتش چون جستم از دل بگفت

Seyed uddin born of a noble house.	His soul removed from this house of clay,
Unequalled and perfect in wisdom.	He made paradise his abode.

When I sought the year of his death my heart responded,
The Mīr, lord of my heart, became an inhabitant of Paradise

Now these words would give the date 384 A. H. as follows :

40 =	م	} میرما حب دل
10 =	ی	
200 =	ر	
90 =	ص	
1 =	ا	
7 =	ح	
2 =	ب	
4 =	د	
30 =	ل	

384 A. H.

The appearance of the tomb is extremely ancient, and justifies our belief in the correctness of the date. It is situated at the eastern extremity of the island and is much dilapidated. It seems probable, therefore, that the change in the course of the Indus from Allore to Rohri actually took place in the year 341, A. H. as given in the inscription in the Masjid of Khwāja Khizr, and that soon after the divergence of the stream, the population of Allore began to migrate to Rohri, and among them probably came the family of Seyuds on the tomb of one of whom appears a date only fifty years subsequent to that of the Masjid of Khwāja Khizr. In assigning an antiquity of eight centuries to Rohri and even to Sakkar, it will not be thought, that their foundation is carried too far back, for it appears that several centuries ago they had reached a high state of wealth and importance. This is attested by the numerous and costly structures erected prior to and during the reign of Akbar, and by the resort of Seyuds who emigrated hither from the most distant countries. Akbar conquered Sindh in 1572. A. D. and though nearly three centuries have elapsed, the buildings erected during his reign are evidently among the most modern of the edifices which cover the hills on each side of the river. The former Masjid of Rohri bearing the following inscription, will serve as an instance : —

The Khusrau of the age, the asylum of the faith, Sháh Akbar,
 Giver of crowns and subduer of kingdoms.
 The Sháh, whose host is as the stars, and whose throne is the sky,
 Defender of the law and leader of the age.
 Whose servants equal Cæsars and Emperors,
 Whose nobles are great as the Khan of Tartary.
 The lowest of thy servants, O Sháh !
 The chief resembling Jamahíd, throne of the age,
 Leader of bright soul, bounteous as the ocean,
 Pillar of liberality and storehouse of benefits.
 Fateh Khan whose blood shedding scimitar
 Laid waste the foundations of injustice,
 Built this cathedral for a heavenly recompense,
 And in the hope of a more enobled abode in Paradise.
 Heart expanding as the holy Caabah,
 Soul delighting as the gardens of Eden,
 May it continue uninjured by the lapse of ages.
 I sought in my mind for a word corresponding to its date.
 The Khan built this Masjid and bid adieu to life.

No. 2. Another example will be found in a small domed building, which now forms part of the Agency at Sakkar, which is of the time of Akbar, but of perfectly modern appearance. It bears the following inscription:—

“In the time of the Khálifat of the great Sháh, most revered king of kings, brightness of the faith, Muhammad Akbar the king, exterminator of infidels, may God establish his kingdom !

“This building was erected for good purposes by the noble Muhammad Maásüm of Bakkar, the son of Seyud Sifá Tarmázi, for the common benefit of all Músalmáns. — Whoever makes a tomb in this edifice, the curse of God, and of the prophet, and of angels, and of the faithful, on him rest ! 1008. A. H.”

Opposite is another building with these verses.

“Sweet spot that like the gardens of the blest,
 Breathes heavenly pleasures to the enraptured breast,
 Mansion of bliss ! thy date let strangers find,
 In hailing, thee the Eden of the mind. 1006. A. H.”

Contrasted with these buildings, the tombs on the hill overlooking the

Agency, seem evidently of a far higher antiquity. Among all these ruins there is no trace of any Hindú place of worship. Not even at Allore, though once governed by a Hindú dynasty, is there any specimen of Hindú architecture to be found. There are some circular towers which would seem very ancient, and the tracery and carved work of which is laid on to the walls in a very rude fashion, but these are nevertheless tombs of Músalmánés from the Kabar in the inside turned towards the Kiblah. What is said to have been the Kót and palace of the Rájas, is now a vast mound of undistinguishable ruin. In one place where Mir Rustam Khán, the Khyrpore chief, caused an excavation to be made, the wall has been laid bare and appears to be of great thickness, about twelve feet as nearly as I could guess. The Mir was not rewarded for his labour by discovering any thing, and the work was soon discontinued from superstitious motives. The distance of Allore from Rohri is about five miles, and the road passes over a bridge to which an undue antiquity has been ascribed by some. There is no reason however to suppose it older than the statements of the natives would make it, that is, about two centuries. It is plain, that it never could have been thrown across the main stream of the Indus, for the height of the centre arch is only fourteen feet, and the whole length of the bridge does not exceed six hundred. Long after the main river had deserted Allore, it is probable, that a small body of water may have continued to flow in the ancient channel, across which this bridge was thrown either by Muḥammad Maásun, or some other munificent noble of that age. After crossing the bridge you come upon a small village, containing about sixty families, of whom two-thirds are Músalmánés, and the rest Hindús. They are subject to little exaction from the Amírs, and find a sale for the produce of their farms among the votaries of Shakar Ganj Sháh. From this village an extensive ridge of ruins is to be traced in a north-easterly direction. In this huge congeries, there is no inscription to be found, or any thing worthy of notice, except a picturesque ruin, which bears the name of Alumgír's Masjíd, and two tombs of Seyuds. Who these worthies were, is now forgotten, but their names remain, Shakar Ganj Sháh and his Khalifu Khutáb Uddin Sháh. The tomb of the former is a celebrated ziyárat, and the people of the neighboring villages make a pilgrimage to it twice monthly. It has no dome or edifice over it, but is a plain white sepulchre with a neat border of carved flowers resembling the fleur de lys. Among the ornaments which the piety of the devotees had suspended over the tomb,

were some stopples of decanters, but evidently in ignorance of their use. For on its being explained to the Mújáwar, that these ornaments had originally belonged to wine vessels, he was greatly scandalized and forthwith threw them away, laying all the blame of their suspension on his wife. I could discover nothing else at Allore worthy of notice, except two stones in the bed of the river, bearing an inscription to the effect, that they were set up by Muhammad Maäsum to mark the ancient course of the stream. This noble Seyud was the founder of many costly works in the vicinity of Rohri. He is buried in the cantonment at Sakkar at the foot of a tower ninety feet high, which he erected and which overlooks the country for many miles. The person who claims to be his descendant, has already prepared his last resting place in the same cemetery. At Rohri they pretend to possess a hair and a half from the head of the Prophet,—the Múi Mú bárík, as it is called. They are set in a gold tube adorned with large rubies, and a great deal of mummery is observed in displaying them. The Mújáwar gave me the following account of their translation to Rohri:—“In the year nine hundred and fifty-two of the Hejira, Makhdin Miyán Abdúlbáki Sadíki, the Mújáwar of the Mir Múbárik, arrived at Sakkar from Istambol, and gave such convincing proofs of the genuineness of these blessed relics, that all the great and pious men of the time visited them as pilgrims, such as Sháh Hyder Hakáni and Múkhdu Abdúlmalak. The office of Mújáwar then descended on Hají Muhammad bin Abdúlsatár Sadíki, who enjoyed it for no less a period than eighty years. After him Sháh Hafiz Muhammad Izhák became Mújáwar, and Hafiz Mahummad Riza and Hafiz Mahummad Múrád, the sons of the said Hají Mahummad, and to the descendants of Hafiz Mahummad Izhák the office now belongs.”

II.—Description of a Copper-plate Grant found at Khárepátan, on the Viziadurga river; with a fac-simile, a transcript in Balbodh, and an English translation. In a letter to the President of the Society: By BALL GUNGADHAR SHASTREE, Esq.

Bombay, 19th November, 1842.

MY DEAR SIR,

1. Having been informed, that a Brahman of Khárepátan, a town situated on the river of Viziadurga or Gheria, had, some time ago, acci-

dentally found a Copper-plate Grant, I succeeded in obtaining the loan of it through a friend; and I have now the pleasure of sending you a *fac-simile* of it, as well as a transcript in Balbodh and an English translation, for being laid before the Bombay Branch of the Royal Asiatic Society, should you deem it worthy of the notice of that body.

2. The four plates composing the Grant are connected, as usual, by a ring running through a hole, and bearing the accompanying figure, which, from having the box of Lingam on its neck and a snake twining round its arms, would appear to be that of a devotee of Shiva. The inscription on the plate is dated in the year 930 of Shalivahana. It is peculiarly rich in the genealogies of the princes of the Deccan and Conkan; containing in addition to a catalogue of the ancestors of the Donor, — a tributary of the Conkan, — two names of Chalukyas, then holding sovereign power in the greater part of the Deccan; and no less than fourteen names of the Yadava kings, whose authority was subverted by a member of the former family, about the end of the ninth century.

3. The records of the Chalukya and Yadava dynasties, already found and decyphered, have generally corroborated each other; and the names as well as the order of succession of the kings of those families, have been made out on the concurrent testimony of a mass of inscriptions collected by Mr. W. Elliott, of the Madras Civil Service, and Mr. W. H. Wathen, the late Chief Secretary to the Government of Bombay. Great deal, however, yet remains to be done in completely tracing the lines of these kings; and it is of great importance to procure additional documents in support of the facts already brought to light, or in elucidation of the points hitherto regarded as doubtful.

4. In the grant of the Chalukya kings, which I had the honour of presenting to your Society through Professor Orlebar, last year, I verified the names of some of the early kings of that race, mentioned in Mr. Elliott's tables, in No. VII of the Asiatic Society's Journal, for May 1837. In the one that accompanies these remarks, there occurs the name of Teilapa, who recovered the dignity of his race from the Yadavas, and that of his son Satya Shri, both of which are to be found in Mr. Elliott's list. The accompanying inscription describes the latter king as reigning in the Shaka year 930, (1008 A. D.) or one year after his accession to the throne, according to the authority quoted above. It also confirms the temporary alienation of the power of the Chalukyas in the ninth century, and the subjugation of the princes of Ráshtra Kuta by Teilapa, as mention-

ed in a copper-plate grant found at Meritch, and published with a translation by Mr. Wathen in No. V. of the Asiatic Journal, for March 1836. This fact appears, moreover, to be supported by the authority of Col. Tod. (p. 2, No. VII. Asiatic. Jour.)

5. The names of the Yádava kings of Ráshtra Kuta require some consideration. Those given in the enclosed grant, though agreeing generally with the list given by Mr. Wathen in p. 105 of No. V. of the Asiatic Journal, on the authority of a grant found at Kardla, dated Shaka 894, (or A. D. 973), differ from them in more than one instance. I give both lists below for the sake of comparison :—

The accompanying Plate.

- 1 Danti Durga.
- 2 Krishna Rája, (his paternal uncle).
- 3 Govinda Rája.
- 4 Nirupama.
- 5 Jagat Tunga.
- 6 Amogha Varsha.
- 7 Akála Varsha.
- 8 Indra Rája, (his grandson).
- 9 Amogha Varsha II.
- 10 Govinda Rája, (his brother).
- 11 Baddiga, (his paternal uncle).
- 12 Krishna Rája, (his son).
- 13 Khotika, (his brother).
- 14 Kákala, (his brother's son).

Kardla Plate.

- 1 Nandi Durga.
- 2 Krishna Rája, his paternal uncle.
- 3 Govind Rája.
- 4 Nirupama, his younger brother.
- 5 Jagat Rudra.
- 6 Madanogha Varsha, (Amogha-Varsha).
- 7 Akála Varsha.
- 8 Jagat Rudra.
- 9 Indra Nripa.
- 10 Jagat Rudra.
- 11 Amogha Varsha.
- 12 Krishna Déva.
- 13 Khodviga Déva.
- 14 Kákala Rája.

6. The first seven names in both lists are no doubt the same. The change of the first into Nandi Durga, and of the 6th prince into Madanogha Varsha, are mere errors of the translator, and not supported by the original Sanscrit. The eighth prince is called Jagat Rudra by Mr. Wathen, while his name in the accompanying grant is Indra Nripa. On referring to the original Sanscrit of the Kardla plate, it appears that Jagat Rudra is not mentioned there as a descendant of the Yádava family, but is introduced as the father of Indra Rája ; who being, according to the enclosed grant, a *daughter's* son of Akála Varsha, there is nothing contradictory

in supposing him to be the son of Jagat Rudra. But Indra Rāja's mother is described in the Kardla grant as the daughter of his uncle Shankara Gana, king of Chedi, and not of Akāla Varsha. The easiest way of accounting for the discrepancy, however, appears to me to suppose that the name of नृप (daughter's son,) is applied in the accompanying inscription to a son of Akāla Varsha's son-in-law, not born from his daughter, but from a different wife. This supposition is fully warranted by the common use of that word.

7, The 10th prince, Jagat Rudra II of Mr. Wathen, appears to be the same as the first prince of that name; and the 11th Amogha Varsha is another son of his, born from Govindava, another daughter of his uncle and father-in-law, Shankara Gana of Chedi; so that he is a half-brother of Indra Nripa. Whether he was a brother of this last prince, or his son, as stated in the accompanying inscription, we have no difficulty in identifying him with Amogha Varsha II in my list. Govind Rāja, the 10th, is a brother of this last named ruler, and the next Baddiga is a paternal uncle of Govind, and, consequently, another brother of Amogha Varsha. Both these names are omitted in the Kardla plate.

8. Some difficulty now presents itself with regard to the 12th and 13th princes in my list—the two sons of Baddiga. Though both these names are to be found in the Kardla grant, yet we have the following account of their connection with Amogha Varsha. "His elder brother, Shri-Krishna Rāja-Dēva, having left this earth to seize Indra's kingdom, Khodviga Dēva, the son of Amogha Varsha, and Kandaka Dēvi, the daughter of Yuva Rāja, succeeded: a most renowned prince."* The apparent inconsistency between the two plates is satisfactorily explained by supposing that Krishna Rāja only was the son of Baddiga; and Khodviga, described as his भ्राता (brother) was his cousin, and the son of Amogha Varsha born as mentioned above. There can be no hesitation in admitting this, when it is recollected that भ्राता is used not only for paternal cousins, but for more distant relations.

9. This view of the subject derives some support from the opinion of Prof. H. Wilson, of Oxford, who makes the following remarks on Mr. Wathen's genealogy of the Yādavas.—(p. 393 No. IV. Asiatic Jour.)

10. "It is probable that two collateral branches (of the Yādavas)

* See p. 102. No. V. Asiatic Society's Journal, March 1836.

are described, the junior of which intermarried with the Ráshtra Kuta princes of Chedi, and exercised an authority, nominally at least, subordinate to the other. Akála Varsha and Amogha Varsha, the last of either series, seem to be contemporaries; and that the latter notwithstanding his lofty titles, was inferior to the former, is implied in the expression, "Meditating on his feet," (Shrimad Akála Varsha Pádánudhyáta,) as one of the titles of Amogha Varsha." The modification that I suggest in this theory, is to suppose that Jagat Rudra did not belong to the Yádava family, that his name is introduced in the Kardla plate to connect the descent of Indra Rája and Amogha Varsha II from Akála Varsha; and that the former, instead of being contemporary with the latter, was his grandson, who might, without any contradiction, be described as meditating on the feet of his ancestor, Akála Varsha.

11. According to this hypothesis, the names in the accompanying grant may thus be connected with Mr. Wathen's list.

- 1 Danti Durga.
- 2 Krishna Rája, (his paternal uncle).
- 3 Govind Rája, (his son).
- 4 Nirupama, (his younger brother).
- 5 Jagat Tung or Jugat Rudra, (his son).
- 6 Amogha Varsha, (his son).
- 7 Akála Varsha, (his son).
- 8 Jagat Rudra, (his son-in-law).
- 9 Indra Nripa, (his son).
- 10 Amogha Varsha II, (his son or brother).
- 11 Govind Rája, (his brother).
- 12 Baddiga, (his paternal uncle, and brother to Amogha Varsha).
- 13 Krishna Rája, (his son).
- 14 Khotika or Khodviga, (cousin of Krishna Rao, and son of Amogha Varsha II).
- 15 Kákala, (his nephew).

It is with great diffidence that I offer the preceding remarks, the truth of which can be established or disproved only by future discoveries. It is probable that the writer of the accompanying inscription was not rightly informed of the pedigree of the enemies of his lord paramount, the Chalúkyá king Satya Shri.

12. The era of Krishna Rája and Govind Rája, the second and third in the above list, is furnished in a copper-plate, found at Van-Dai-dori, in the district of Nassic, by L. R. Reid, Esq., and published in No. X. of the Asiatic Society's Journal. According to this document, Govind Rája was on the throne in 730 Shaka (A. D. 808), and in the Kardla inscription, the date of Kákala's reign is Shaka 894 (A. D. 973); so that placing this last prince's accession about ten years before this time, or in Shaka year 884, and making a deduction of two princes, who, being introduced merely to explain the descent of Kákala, never ascended the throne, in all probability, we have between Govind and Kákala, ten princes, whose reigns extend over a period of 154 years; giving 15.4 years for the duration of each reign, which does not much exceed the ordinary average.

13. The capital of these Yádava princes of Ráshtra Kuta, is described in the Kardla grant as Mandya Khéta, which Mr Wathen supposes to be the same as Man-Khéra in the dominions of the Nizam of Hyderabad. No grants by this dynasty have been as yet found in the collections made by the late Col. McKenzie.

14. I now come to the family of the donor, Rahu Rája. The fact of its having been descended from the kings of Ceylon is remarkable on more than one account. The only interesting circumstances mentioned about this chief are, that the authority of his family extended from the Ghauts to the sea, and that one of them, Avasara, lent his aid to the ruler of Chandra Mila, which Mr. Wathen conjectures to be Tanjore, from its native name of Chandáwar.

15. The names of the princes of this family are as follows.

- | | |
|------------------|-----------------------|
| 1 Jhalla Phulla. | 6 Avasara II. |
| 2 Dharma. | 7 Indra Rája. |
| 3 Diyapa Rája. | 8 Bhima. |
| 4 Avasara. | 9 Avasara. III. |
| 5 Aditya Varma. | 10 Rahu, (the Donor). |

Of these the first is stated to have enjoyed the favour of Krishna Rája (the first) of the Yádava race, who reigned in the beginning of the 8th century of Sháliváhan, as shewn above; so that we have ten of these petty princes reigning over a period of 200 years (or between 730 and 930 of Sháliváhan). This gives an average of 20 years to each prince; and

it does not appear much beyond probability, when it is considered that the situation of the Conkan being far from attractive to invaders, it has ever been more tranquil than any other part of the country.

16. All the three villages described in the accompanying inscription, are given in perpetuity, to a family of Brahmans of the Matta Mayura race, having the surname of Karkaroli. They all appear to be situated in the district of Viziadurga. Shantashmandi, the first, must obviously have been situated between the villages of Bápardé, Manché and Savadalé; the two last of which, as stated in the grant, are on the banks of the river. The sites of the other two villages cannot be so easily made out, though there are places in the district, having the names of Gavána and Savadalé, mentioned in the grant as boundaries.

17. The language of the inscriptions has nothing remarkable in it. The character does not differ much from the modern Balbodh; and the only letters belonging to the cave Alphabet that I find are ञ for ङ ; ॠ for ॡ ; ॡ for ण ; ॢ for ॣ ; and perhaps one or two others.

I remain, dear Sir,

Yours most sincerely,

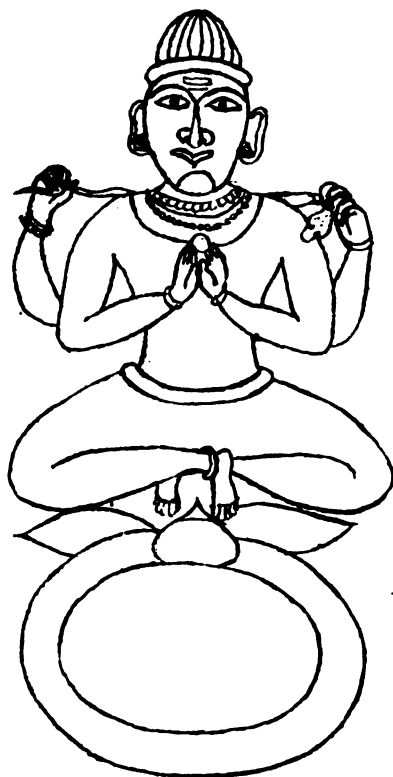
BALL GANGADAR SHASTREE.

21st November, 1842.

TO THE REV. JOHN WILSON, D. D.

President of the Bombay Branch of the Royal Asiatic Society.

Ring connecting the Plates, with the image appended to it.



८० उरुमः सिवाय ॥ हे लोक्तालितयलुदलुयन लंगुष्ठाद्यदागा
हतस्मर्गगाद्वतमुक्रिसं पुटगालमुक्ताकनंतालुवे१ पालिवीकुक्कया
लमास्यधजटायद्राम्तोलीवितं कं कालंययददुतंस्मितमवलीसेकतद
स्मिनम॥ गोत्रं किंशुकरुतोरुमधुपवसतिक्कुसदावर्मेवक्रोवाक्रोद
लुकोह्यामययनपवकाकंमिहोवाकृहीकः॥ ४॥ वावम्याकूतमूलः प्रकृतिन
तिप्पकोवा नलेदुनृपृष्टः॥ साप्राप्तोमीहव॥ स्यायदुकुलतिलकोनाष्टकृटेस्व
नाली॥ वशमीदृदिदुर्नः प्ररु॥ १॥ पियतुतः॥ ७॥ स्रनाजः पितृष्टस्मा॥ द्वावि
कनाजस्यमनुकिनुपासाऽस्माद्गुंगदेवः॥ १॥ तनुत्रोमाप्पवर्णो निपुवकद
हकोऽस्यप्यधाकालवास्थाकसाकृस्त्रीदुनाक्रोनुविनत् नवपुस्तनुतोमोप्पव
खेन संगाननमिडिवाओवसक्तव
तस्य ककीयात्रातागोविन्दनाजोद
द॥ वक्त्रसमहृष्टतः॥ हनिनिव
त॥ पितृष्टममसीन्नल यज

नताकल्यविटयीहतांतोगतीबांदुय

श्रीकृष्णतुमारुपा लीकलियुगेमदा

मन्त्रोऽष्टादशः वा द्वादशः

पियातु नं व विमेष जा याक नो ह

प्रागदृष्ट्या त्रैलोक्यीक शिद्धि

यागदृष्ट्या यातेत सिद्धेव सप्तायव

जगवोगार्हितसीः॥ कक्कलद्व

प्रतापजित साययः॥ अमृतं तं हि बिम्बि

जिह्वान्ना विगमयः॥ ममैतत्तद्वि

ॐ नमो भगवते वासुदेवाय ॥ तस्यै नमः ॥

तीत्येनःस्यस्य द्विर्विक्रमेकत्र सोऽति

यथाज्ञेयहपाटी मङ्गलस्यवि॥१॥

यथाज्ञचत्पायमकुशायाति॥७॥
मीमन्त्रिकेभ्यःप्राज्ञीभ्यः॥८॥

॥ श्री भूतकेतोःसमुन्नोन्मादीसुतः ॥

तां यत्र प्रमुत मोदागद्गा

नृणां यथा प्रजापतिः सृष्टुं शक्नुते तथैव भूतानां प्रजापतिः सृष्टुं शक्नुते ।

तत्तु नात्र प्रसादशब्दसमुद्रताने

इति विद्वद्विराज्यः प्रसिद्धः

गानः साको गुडिनि वज्रग तु तव यः॥

यस्य नथस्य हनिरुयकुः। तस्मिन् विजोः

सिद्ध सुगजः ॥ सो नदिल मछ

ॐ नमो भगवते वासुदेवाय ॥

कुं ता गोरिका यज्ञतोऽष्टु धा

रुकीं डक प्रियः। आसीन्नय लु कमेव

पौःद्रुक्कहीयनिःगलुक्कयद्रा॥

ॐ नमः शिवाय नमः

१५
ॐ नमो भगवते वासुदेवाय

प्र
व
५०
म
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ह

अथ वनांगीना कुङ्कुमकुङ्कुडीपितुः

ॐ नमो भगवते वासुदेवाय ॥

ततः सिलानयंसाह्नुस्त्रहलभूतिः

ताडितः॥माभाल॥कुलः॥ग्रातः॥

अस साव मोरु वरुात लुद्रायम्

असत्तापनात्वात्तापमुद्रान्न

एगहृन्नाग्रावक्षियचःपनः। प्रतापवाकाहाडुनेयलिधप्रकत्तकती॥ तस्मादे
 यपचाजोदुदितिमीपुगुलाब्धितः। म्यातस्यदुपु रायमू कातिवानामु वास घः
 वदुवावयनसुस्मातीति साधार्थतन्वविह। पकमेत्र प्रलम्भा नि कालुस्व लुप नाक्रमः॥
 आदिएयम्मा पुशे सुने जया दिखवन्नतः। तस्मादयस। राजाता डि तारिहस्मे वाक् पः॥
 येमनागवु पुन जस्माय स्माहाय मदाद्याः भन तोरुव दिन्नु नाजास्य गतो गति यु
 , नृवगातस्माभ्रुत कोण कृद्दि। माही मारु विक्रमः। ते जस्मा नाहु व द्रुम चन्द्र म लुल
 उदूतः॥ तत स्वावस। ना ना जा ता नीव वि वे क बाण। प्रादुः प्रादु ऊ नावातः
 दूनः यूनम कय वाक्॥ र रुका मारु य न्स्मा द्रा जो पु ल्व नो व नः। की ति डो मी ति
 मा प्रा धे दू से वी डि। तकि यः॥ पन म क हान क म हा ना जा वि ना ज मी स ल स्य य दे
 याकु ७। तम गु लिक सी न रु नाजः स्यो का व स्व र्गं व थ मा क लो व जो क य द प्र क
 का मा ल्व व र्म मा ह या लु वः स्य वि दि तं य था कू ली क उ गा पु त बा च व्व ग्रा स। यो य
 नं कि प य प त कू मि वे स्र वि यो ग ७
 मवी व कं प व कं व ल क म ल ट ल ग्यं णा वि ज वा म च ल स्ता क च लं य
 चा त ज ल ल व स दृ सी व का यु सी

सत्वादारु परल भविव कडछा॥३

वहुंछोर्षे प्रवी मूर्य सुता स्य गावः॥

गौचमही भदछात ॐतिमु किवचरु मववा॥

कनूप का लाती तसूख भूपक वस ते सु जिंसद विके सु प्रवर्तमा क कील क मन्वव

गार्ग तलेष्ठ णि लु मा म्प सी मर द्वे स्वनाद वप को प चान पुजा पुन म्प न ग व लु म्प

रित मं म्प ना छं र्थ मन् पस्वि प्प ज का द क द्वा र वि द्द क का म्प ग ता छ म्प या गा घ द्वा

भा क्क ष्णा णी ग्राम म्प स्य प्प द्वा का डि क धार म्प प ता म लि ग्राम म्प पा द क्क ल तो न प न प ट

ग्राम मार्गः पस्वि मतः स ग कूल क पि रू ग्राम ग हा ह ला उल न तः कान क दी ४ त वा ५

सक वी न ग्राम स्र म्प पृ र्ष ता ४ न वा ह ला द क्क ल तः कान न प ल्हा ग्राम क दी। पस्वि मतः

म सु द्रः उरु न तो ग व ह ल ग्राम क दी। त था व उरु ल ग्राम म्प म्प पृ र्ष ता को ग दे व प प र्ष

त य म ल प्र स्र नो द क्क ल तो ५ ग्व ५ द वा ह ला प स्वि मतः प ट म्प उ पा षा लः उरु न तः

म्प मा क ग्राम सी म वी प र्थ तः ४॥ त था दे व ल्प ञ्जी ग्राम म्प डी व लो कः ५१ छ द्द तु ले वा

का क न ००१ म्प छा प ली ह ह कः ५१ ते दे त द्वा म र्था दि कं व लु न प्पा ट वि क्कि क्क म्प र्ष

ना ड की या या म्प न सि द्ध न चा ट रु ट प्र वे स पृ र्ष ट क दे व दा य व्र ल दा य व हु म्प्री म न

क्रं च मु कि हि ॥ अ ने न प नं प्र थ मं सु॥

लो क त्र यै त द्वा ष दि द्दं यः का व क्क

ये पि। श नु द्वा। म्प का ल क स्मा स्र या धि म

क नूप का ला ती त सू ख भूप क व स ते सु जिं स द वि के सु प्र व र्त मा क की ल क मन्व व

गार्ग त ले ष्ठ णि लु मा म्प सी म र द्वे स्व ना द व प को प चान पु जा पु न म्प न ग व लु म्प

रि त मं म्प ना छं र्थ मन् प स्वि प्प ज का द क द्वा र वि द्द क का म्प ग ता छ म्प या गा घ द्वा

भा क्क ष्णा णी ग्राम म्प स्य प्प द्वा का डि क धार म्प प ता म लि ग्राम म्प पा द क्क ल तो न प न प ट

ग्राम मार्गः पस्वि मतः स ग कूल क पि रू ग्राम ग हा ह ला उल न तः कान क दी ४ त वा ५

सक वी न ग्राम स्र म्प पृ र्ष ता ४ न वा ह ला द क्क ल तः कान न प ल्हा ग्राम क दी। पस्वि मतः

म सु द्रः उरु न तो ग व ह ल ग्राम क दी। त था व उरु ल ग्राम म्प म्प पृ र्ष ता को ग दे व प प र्ष

त य म ल प्र स्र नो द क्क ल तो ५ ग्व ५ द वा ह ला प स्वि मतः प ट म्प उ पा षा लः उरु न तः

म्प मा क ग्राम सी म वी प र्थ तः ४॥ त था दे व ल्प ञ्जी ग्राम म्प डी व लो कः ५१ छ द्द तु ले वा

का क न ००१ म्प छा प ली ह ह कः ५१ ते दे त द्वा म र्था दि कं व लु न प्पा ट वि क्कि क्क म्प र्ष

ना ड की या या म्प न सि द्ध न चा ट रु ट प्र वे स पृ र्ष ट क दे व दा य व्र ल दा य व हु म्प्री म न

मस्य च कृपकौ नाली मंतति प्रष्टुत विद्वद्ब्रह्म च यो नार्यश्री गमाचं शर्कं पा लकी यां श्री म
नरु म सु गारु या कूर्गंत कर्कालि म नूक सुनु क मा या व सि द्वा कू र ता कौ य दू त मा हा
कृत म सांतां पो म हि म प्र वृ स्ता से ष म हा कं प्रा वा व प्र दी प प्र का सि त स्वर्गो पवर्ग मा गो ली
स मा वि ज य ल द्त्रि मु व क की ली का श्री म द शो ज स म्दु गु त् ली न न ल क म ला कू ली क म कु
लि द्यः स्त्री म रा ने य वि द्द ह क ल्यो वि षा दा क स्व ह पे ल म म दा उ न त था दी पा क ना या त वे हि
रा श्व लु ग रि या ल चे स्र ल च क पु न य ह क ह ल स ली या या त प्र वे ह ल ल्व लु व न ल
रा मि का कु दु न्ना नि च ति लि क कु दु न्ना मे कं मा ला का न कु दु न्व १ कु मू का न कु दु न्व १ न ज
क कु दु न्व १ दु र्गा कू ने न ज रा ती पु नार्थे दु मि त र्था श्च ष्य ह हा कि क ७ कू स र्ष ता व द्यु ति
प्रा का । रा द च्छि ल तो म कू ट गो पु न प स्वि म तः श्री व र मा र्ग उ न्न न तो मा र्ग कृ पः १ दु गा द्व
हि स्व पु ष्य बा छ र्थ स र्वे प्र सि द्ध वऽ वा कु व म १ ० रा त दि दं यं म्मे मा म की क मा ल की कि की
वि हि र्क वा क्ते न तु पा ल की य मु क्त वा मु कि क्रिः । या की ह द द्वा कि पु ना क ने क्ते र्दा कि
व र्मो र्थ य स र्व्व ना लि । कि म्मो ल वा क प्र ति मा नि ता कि को क म मा पुः पु क ना द दी त । व
दु कि र्थे सु भ कु ज्ञा रा उ किः प्र रा रा दि
दा पा ल म । मे छो ष क कि न या स मा

क्रिः॥ य स्य य स्य दा द्दु मि स्य स्य त स्य ह
या सं दी र्ण पा ल क म अ त प व र्ध यः

प्रादुर्दोर्बाद्रेयोऽनुपालकम्नदयदृ

वतनामरुद्रः।सामाग्नोयं वमोस

यस्त्वैवमर्थातापिकलिकालमुषितमरुक्कः

सपयकिनयपालमकुविच्छति।उक्तं च स्वदन्नापनदन्नायाहानतवसुमुना

मा।षष्ठिर्वर्षमदृष्टालिविष्ठायांमृतमिद्विवत्।षष्ठिर्वर्षमदृष्टालिस्वमेतिष्ठ

तिरुमिदः।आह्वत्वाकाकुमनायतोक्तेवक्तुं त्रजेताः० तिमन्निवचकावका

यसमस्मागामिरूपतिभिःपालकवर्त्मपरल्लारुपवकनलीयः० कपुन

स्त्रल्लोपकलकपतिर्नवितृमयथाचितदवस्त्रीनहृजाजस्त्वहस्त्वहृम

मात्रोपयतिस्वरुद्रोयंममस्त्रीनहृजाजस्त्वहृमस्त्वहृम

मुदंमन्विद्रुकम्बनाजस्त्वहृमस्त्वहृम

भिन्नाविहः पार्थिवश्रुद्वयोदृयाया

उक्तं पालीकाले काले पालनीयोऽरुवद्रिः।

पुगातकवर्मदायलुपिकनिच्छति

पुगातकवर्मदायलुपिकनिच्छति

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पुगातकवर्मदायलुपिकनिच्छति

पुगातकवर्मदायलुपिकनिच्छति

निदम्॥

Transcript of the Plate in Balbodh.

नमः शिवाय ॥ हेलोलालितचंददंडचरणांगुष्ठामभागाहस्तस्वर्गंगो
 द्रतशुक्तिसंपुटगलन्मुक्ताभृततांडवे ॥ पाणौवीक्ष्यकपालमाश्वयजदाचं-
 द्रामृतोज्जीवितकंकालंचयदभ्रुतंस्मितमवलीशेनतद्विश्वरं ॥१॥ गोत्रं
 भित्त्वानभूतो नमधुपवसतिर्नोसदाधर्मवक्रो नाकांतोदंडकोऽव्यानचपरपवना-
 कं पितो नांतहीनः ॥ नाधस्तान्नीतमूलः प्रकृतिरतिघनानोरणेदत्तपृष्ठः
 सोऽथ्योस्तीहवंशोयदुकुलतिलकोराष्ट्रकूटेश्वराणां ॥२॥ तत्रासीदितिदु-
 र्गः प्रभुरपि च ततः कृष्णराजः पितृव्यस्तस्माद्गोविंदराजस्तमनुनिष्पमोऽस्मा-
 द्जगतुंगदेवः ॥ तत्पुत्रोमोघवर्ण्योरिपुवनदहनोऽस्याप्यथाकालवर्ण्यो न सास्य
 श्रीद्रराजोऽरुचिरतरवपुस्तत्पुतोमोघवर्ण्यः ॥३॥ श्रृंगाररसनवासोव-
 संतवद्वरवधूसमूहवृतः ॥ हरिरिव तस्य कनीयान्भ्रातागोविंदराजोभूत् ॥४॥
 पितृव्यस्तस्यासीत्पण्यजनताकल्पविटपीकृतांतोरातीनां नयगुणनिधिर्बहि-
 गनृपः ॥ प्रतिष्ठंदः साक्षात्कृतयुगनृपाणां कलियुगे सदाचारः शांतो
 मुनिरिव जगत्तुंगतनयः ॥५॥ शंभोः षडानन इवाश्रिमुनेरिव दूराभोयथा-
 दशरथस्य हरेर्जयंतः ॥ तस्यास्रजोपि चतुरंबुधिमेखलायाभर्त्ताभुवः समभ-
 वद्विकृष्णराजः ॥६॥ सोऽयं क्षित्यामंडलयोगदुष्ट्यायातेतस्मिंश्चैव सघाव-
 काशं ॥ तस्य भ्राताग्योटिकाख्यस्ततोभूत्पृथ्वीभर्त्तास्वागकामोजितश्रीः
 ॥७॥ कक्कलस्तस्य भ्रातृव्योभूवोभर्त्ताजनप्रियः ॥ आसीत्पचंडधामेव प्रताप-
 जितशान्त्रवः ॥८॥ समरेतं विनिर्जित्य तैलपोभून्महीपतिः ॥ चालुक्य-
 नृपभाजिष्णुययातिराजकेसरी ॥९॥ तस्यात्मजः परं जिष्णुः ख्यातः सत्या-
 श्रयोभवत् ॥ क्षितीश्वरः सख्यवृत्तिविक्रमैकरसोजितः ॥१०॥ एवं प्रवर्ध-
 मानचालुक्यान्वयश्रीसत्याश्रयराजेशेभूपाटीमनुज्ञासति ॥ ॥ आसीद्वि-
 शाधराधीशोगरुत्तमदनुजीवितः ॥ जीमूतकेतोः सत्पुत्रोऽभासाजीमूतवाह-
 नः ॥ ततः सिलारवंशोभूत्सिंहलक्ष्माभृतान्वरः ॥ प्रभूतभूतसौभाग्यभाग्यवान्
 जितोजितः ॥ नाम्नामलकुलः ख्यातः कृष्णराजप्रसादवान् ॥ समुद्रतीरसंस्थां
 तदेकसंभावनोभवत् ॥ तत्पुत्रो धर्मैवाभून्भासाधर्मयशः परः ॥ प्रतापवान्महादु-
 र्गावलिपत्तनकृत्की ॥ तस्मात्तद्वैयपराजोभूद्विजिगीषुगुणान्वितः ॥ स्ना-
 तस्य नूपुरासन्ननालिकेराम्बुनासयः ॥ बभूवावसरस्तस्मान्नीतिशास्त्रार्थतत्त्व

वित् ॥ चक्रमेत्रप्रलग्नारिकाण्डश्वण्डपराक्रमः । आदित्यवर्मापुत्रोभूतेजसा-
दित्यवत्ततः । तस्मादवसरोजातो जितारिर्धर्मवानृपः । येत्रत्यचन्द्रपुरजक्ष्मा
भृत्साहाय्यमदाद्यः । ततोभक्तदिन्द्रराजोत्यागभोगातिभुग्वरः ॥ तस्मात्प्रभूत-
भाग्योभूद्भीमोभीमाभविक्रमः । तेजसाराहुवदयस्तचन्द्रमण्डलउज्ज्वलः । तच्च
श्यावसरोराजाजातोतीवविवेकवान् । प्राप्तःप्राप्तजनावासःशूरःपरमरूपवा-
न् । रहुनामाभवत्तस्माद्राजापुण्यभृतांबरः । नीतिज्ञोनीतिशास्त्रार्थवृत्त्यसे-
वीजितेन्द्रियः ॥ परमरुद्धारकमहाराजाधिराजश्रीसत्याश्रयदेवानुभ्यातम-
ण्डलिकश्रीरहुराजःसर्वमेवस्वसंबर्ध्यमानपौरजानपदप्रधानमाख्यवर्गमाहू-
यास्तुवःसंविदितं॥यथातलीनजरापूतनाचर्व्वमासंयौवनंनिरयपतनमिवेष्टवि
योगदुःखंभाविजरामरणसाकरणंचशरीरकंपवनचलकमलदलगतजलल
वसदृशीधनायुषीमत्वादानपरलक्ष्यविवेकबुध्या । उक्तंचमुनिभिः । अग्रेरपत्न्यं-
प्रथमंसुवर्णंदौर्वैष्णवीसूर्यसुताश्रयावः । लोकत्रयंतेनभवेत्थिदत्तयःकांचनंगां
चमहींचदद्यात् ॥ इतिमुनिवचनमवधार्यपित्रोरुद्देशेनात्मनश्चश्रेयसेशकनु-
पकालातीतसम्बत्सरनवशतेषुत्रिंशदधिकेषुप्रवर्त्तमानकीलकसम्बत्सरांतर्ग-
तज्येष्ठपौर्णमास्याश्रीमदर्धेश्वरदेवपञ्चोपचारपूजापुरस्सरखण्डस्फुराटितसं-
स्काराद्यर्थसत्तपस्विभोजनाच्छादनच्छात्रविद्वज्जनाद्यागताद्युपयोगाद्यर्थ-
शान्तध्याण्डीग्रामस्तस्याघट्टनानिकथ्यन्ते । पूर्वतोमणिग्रामप्रपा । दक्षि-
णतोवापरवटग्राममार्गः । पश्चिमतःसवान्दलकपितृग्रामवाहला । उत्तरतः
क्षारनदी ॥४॥ तथासनवीरग्रामस्तस्यपूर्वतोझरवाहला । दक्षिणतःका-
रपण्डीग्रामनदी । पश्चिमतःसमुद्रः । उत्तरतोगवहणग्रामनदी । तथावड-
हुलग्रामस्तस्यपूर्वतोभोगदेवपर्वतयमलप्रस्तरोदक्षिणतोवडवाहला । प-
श्चिमतःपटसडपाषाणः । उत्तरस्तामानग्रामसीमवीपर्वतः । ४। तथादेव-
लक्ष्मीग्रामजीवलोकाः । १। व्यग्ररुलेचाकान्तरः । १। शय्यापक्ष्यादूहकः
। १। तदेतद्ग्रामत्रयादिकंचतुराघाटविछिन्नंसर्वराजकीयायाद्यंतरमचाट
भटप्रवेशपूर्वदत्तदेवदायब्रह्मदायवर्ज्यश्रीमत्तमयूरान्वयकर्करोलीसंततिप्रसू-
तविद्वद्ब्रह्मचर्याचार्यभोग्यमाचद्रार्कपालनीयं ॥ श्रीमन्मतमयूरान्वयांतर्ग-
तकर्करोलीसंतानगुरुक्रमायातसिंथांततत्त्वाकर्पापहृतमोहांधतमसानांतपो-

महिमप्रध्वस्ताशेषशंकानांप्रबोधप्रदीपप्रकाशितस्वर्गापवर्गमार्गाणांसभावि-
जयलब्धत्रिभुवनकीर्त्तीनाश्रीमदंभोजशंभुगुरूणांचरणकमलातर्लीनमधु-
लिङ्गःश्रीमदात्रेयविद्वद्गुरुभ्योविद्यादानस्वरूपेणसमदात् ॥ तथाद्वीपांतरा-
यातवहिन्नास्वर्णवदिवारणं ॥ १॥ चेमूल्यचंदपुरवर्ज्यकंदळमूलीयायातस्वर्णध-
रणं ॥ दारिकाकुटुंबानिचतैलिककुटुंबमेकं ॥ १॥ मालाकारकुटुंबं ॥ १॥
कुंभकारकुटुंबं ॥ १॥ रजककुटुंबं ॥ १॥ दुर्गाद्यंतरेचजगतीपुरार्धभूमिं
तस्याश्रय्याघट्टनानिकथ्यते । पूर्वतोवसतिप्राकारोदक्षिणतोमर्कटगोपुर-
पश्चिमवःसीवटमार्गउत्तरतोमार्गकूपः ॥ दुर्गादबहिःश्वपुष्पवाद्यर्थपूर्वप्रसिद्ध
बडवाभुवं । तदिदं धर्ममामकीनंमामकीनैर्भाविभिर्नरैर्द्वैरनुपालनीयमुक्तं च-
मुनिभिः ॥ यानीहदत्तानिपुरानरैर्द्वैर्दानानिधर्मार्थयज्ञस्कराणि । निर्मा-
न्यवांतप्रतिमानितानिकोनामसाधुःपुनराददीत ॥ बहुभिर्बसुधाभुक्काराज-
भिःसगरादिभिः । यस्ययस्ययदाभूमिस्तस्यतस्यतदाफलं ॥ सद्यादानंनि-
रायासंसायासंदीर्घपालनं । अतएवर्षयःप्राहुर्दानाच्छ्रेयोनुपालनं ॥ दत्त्वाभू-
मिंभाविनःपार्थिवैर्दानभूयोभूयोयाचतेरामचंद्रः ॥ सामान्योयंधर्मसेतुर्नृपाणां
कालेकालेपालनीयोभवद्भिः । यस्त्वेवमभ्यर्थितोपिकलिकालमुषितमन-
स्कःपुरातनधर्मदायलुप्तिकरिष्यतिसएवनिरयफलमनुभविष्यति । उक्तं च ।
सदत्तांपरदत्तांवायोहरेतवसुंधरां ॥ षष्टिर्वर्षसहस्राणिविष्टायांसकृमिर्भ-
वेत् ॥ षष्टिर्वर्षसहस्राणिस्वर्गेतिष्ठतिभूमिदः । आछेत्ताचानुमंताचतान्ये-
वनरक्रं ब्रजेत् । इतिमुनिवचनान्यवधार्यसमस्तागामिनृपतिभिःपालनधर्मफ-
ललोभएवकरणीयः । नपुनस्तल्लोपकलहपरैर्भवितव्यं । यथाचेत्तदेयंश्रीर-
हुराजःस्वहस्तेस्वहस्तमारोपयतिस्वहस्तोयंममश्रीरहुरायस्य । मुद्राशुर्थंक्रि-
याशुत्वंभुक्तिशुत्वंसच्चिन्हकं । राजस्वहस्तशुत्वंद्रुशुत्थिमायातिशासनं ॥
० शिवमस्तु ॥ सांघिविद्याहिकश्रीदेवपालसुतेनलोकपार्यगम्नालि-
खितमिदं ॥

*Translation of a Copper-plate Grant, found at Kharepatana on the
Viziadurga river, bearing 930 Shaka year (or 1008 A. D.).*

Invocation to Shiva. May we ever receive protection from that merry humour of Shiva ; who wonderfully smiled, when he saw the skull in his hand filled with the pearls which had been scattered from the shells of the heavenly river, trodden by the extremities of the toes of his feet, while his post-like legs were lifted up and down in dancing ; and when he perceived the same skull immediately converted into a living skeleton by the immortalizing nectar of the moon contained in his clotted hair. There is a race (vunsha) of the lords of Ráshtra Kuta ornament to the family of Yaadus ; which, (unlike the other vunsha or bamboo) has issued without injuring its * ancestors ; which admits of no drunkards ; is never cross in a charitable deed ; is never bent under the burden of tribute ; and is never shaken by gale-like enemies. Its roots do not descend to low places, nor does it turn its back in battle, its texture being solid. King Danti Durga of this race was succeeded by his paternal uncle Krishna Rája ; who was followed by Govinda Rája, after whom flourished his younger brother Nirupama. This prince was succeeded by Jagat Tunga. Amogha Varsha his son, was to his enemies what fire is to a forest. His son Akála Varsha was followed by his comely grandson, Shri Indra Raja, and from him was born Amogha Varsha. His younger brother Govinda Rája, was, like Hari, an asylum to the feeling of love, and surrounded by crowds of young damsels like the spring. His paternal uncle Baddiga, the son of Jagat Tunga, became a desire-yielding tree to his supplicants, while he was a second Pluto to his enemies. He was, in point of virtuous deeds, an image, in Kali Yuga, of the kings of Krita Yuga, and was as mild as a Muni. As six-headed god to Shumbhu, as moon to Atri Muni, and as Ráma to Dasharatha, so was his son Khrishna Rája to himself. After this king left this earth by means of Yoga, (?) his brother Khotika, (or

* Here is a play of words, founded upon the two meanings of "vunsha," which cannot be translated. The sense of the words employed is given above, as intended to be understood in reference to the royal race. In connection with the bamboo, with which the royal race is contrasted, the words used namely गोत्र, मधुप, धर्म and दण्ड, mean a hill, a black-bee, nature, and a club, instead of ancestors, drunkards, charitable deeds and tribute. The rest of the allusion may be easily understood.

Gyotika) who acquired glory with a wish of displaying generosity, ruled the earth. His brother's son Kákala, was a popular king, who had defeated all the enemies by his prowess. Having defeated this king in battle, the lion-like and glorious king Teilapa, of the Chálukya race, descended from Yayati, came to the throne. His son Satyáshraya, renowned as a warrior by his exploits, became after him the master of the earth, and governed it with equity. While this Satyáshraya, lord of kings, descended from the flourishing race of Chálukyas, was ruling over the surface of the earth, (his tributary Rahu Rája was master of the Conkan, whose pedigree is as follows). The Shilara race of the king of Singala (Ceylon,) derives its origin from Júmít Váhana, the son of Jímúta Ketu, the lord of the Vidya Dharás, who was preserved by the celestial Garúd (the eagle of Vishnú). In this race was born Jhala Phalla, mighty in deeds, but handsome in person, who under the favour of Khrishna Rája (of the Yádava race mentioned above), governed the tract of country between the sea and the Sahya mountains. His son Dharma, as his name implies, was bent upon acquiring fame by virtuous actions, and had distinguished himself for valour as well as for the foundation of towns and the construction of forts. From him was born Diyapa Rája, who was possessed of all the qualities of a conqueror; and to him, after he bathed himself in the water of the cocoanut fruit, was born Avasara, who comprehended the doctrines of morality, and was celebrated for his grand exploits. His son A'ditya Varma resembled A'ditya (the sun) by his glory; and from him descended the virtuous king Avasara, who defeated his enemies and aided the kings of Chandra Pura.* From him was born Indra Rája, who was as famous for his enjoyments as for his generosity. His fortunate son Bhíma, resembled Bhíma (the 3d of the Pandvas) in valour, and by his effulgent glory had eclipsed the splendour of Chundra Mundala, (the Court of Chundra Nagaru ?) as Rahú does that of the moon. From him was descended king Avasara, who was possessed of great prudence and wisdom, who afforded refuge to learned men, and was both handsome and brave. To him was born king Rahú, the chief of the virtuous men, who having made himself acquainted with morality, was assiduous in respecting those who had distinguished themselves for virtuous conduct, and in duly regulating his passions. This tributary king Shri Rahú Rája, meditating on the feet of the great

* This passage contains one or two verbal inaccuracies.

sovereign Satyāshraya, and assembling his chief ministers and the principal inhabitants of his capital, (commands, as follows). Be it known to you, that youth is a morsel, greedily swallowed by the beldame "old age;" that the grief from the separation of what is dear, is like the torments of hell; that body is constantly being solicited by old age and death; and that wealth and life are as transient as the drops of water on the leaf of a lotus plant tossed about by wind. Knowing this, as well as keeping in mind the virtuous effects of gifts, and considering the saying of the Muni, namely, "Gold is the first offspring of fire, land is the offspring of Vishnu, and cows are the offspring of the sun; and he, therefore, who gives away land, gold, and cows, gives away three worlds;—also keeping in view the good of our parents and of ourselves, and for the purpose of contributing to the Panchopachāra worship of Shri Argheshwar, to the repairs of his temple, as well as the supply of food and clothing to good devout men, their disciples and learned men—we have given on the 15th of Jeshta in the Shaka or Shalivahan year Kilaka, 920 years having elapsed from the commencement of that era:—1st. The village Shanta Shmandi of which we mention the boundaries. To the east, the creek * of Manigam; to the west, the road leading to Bāparavata; to the west, the torrent running through the burying-ground of Savandala; and to the north, the salt river. 2d The village of A'sana Vira; to the east of which is the Jhara torrent; to the south, the river of Karpandī; to the west, the sea; and to the north, the river of Gavahana. 3d. The village of Vadadgula; to the east of it lies the hill of Bhoga Deva and the double rock; to the south the torrent of Gwedada; to the west, the rock of Patsada; and to the north the boundary hill of Tāmana. Also 1st, Jīvaloka in the village of Deva Lakshmi; 2d, Akantara in Vyadgarula, and Duhaka in Shaya Palli. These three villages &c. bounded on four sides, and free from all royal taxes,

* The word, मण्ण of which this is a translation, properly means a booth erected for the distribution of water. But its Marathi synonyme मण also means, in the provincial dialect of the Southern Conkan, a creek or inlet running towards a river; and as the language of the plate is far from pure, and contains more than one provincial term, I am disposed to think that the word is used in this latter sense. One great reason for this conjecture is, that booths for the distribution of water are as unknown as unnecessary in the Conkan; and that creeks are usually referred to as the boundaries of villages.

and from the ingress of the Government people and the military, shall be enjoyed, with the exception of any prior grants to gods and brahmans, by the learned and the pious descendants of the race of Matta Mayara, descended from Karkaroli. May this grant be protected as long as the sun and the moon exist. This is given to Atreya, the learned preceptor that gave us instruction, and was himself a black bee in the lotus-like feet of Shrīmat Shambhu Guru, who had dispelled the mist of ignorance by the diffusion of the light of philosophy, handed down from preceptors to disciples in the enlightened race of Matta Mayara; had removed all objections by the power of his devotions; had illustrated the path of heaven and beatitude by the communication of spiritual knowledge; and had obtained, throughout the three worlds, the reputation of having conquered the assemblies of learned men. We have also given to them a golden vehicle, that has been received from a foreign island, and gold which may be produced from vegetables except in Chandapura.* We have also assigned to the said brahmans a family of slaves, or female public servants; a family of oil men; a family of potters; and a family of washermen;† and have likewise allotted to them half of the land of the Jagat Pura, of which the boundaries are as undermentioned:—To the east, the dwelling palace; to the south, the monkey gate; to the west, the road leading to Shévata; and to the north, the well on the public road. Out of the fort also we have granted the spot formerly known as the mare's ground, for making a garden. This grant of mine should be preserved by my posterity as well as other future kings. As Munis have said, "Grants assigned by former kings with a view to the promotion of virtue and the acquisition of fame, are like offerings once dedicated and become stale, or like matter ejected from the mouth. What good man will take them back? Many kings, as Sugara, &c. have enjoyed the sovereignty of this earth; to whomsoever the earth belongs, to him belongs the fruit thereof. It is not difficult to give once away, but it is very difficult to preserve a grant for a long time; for this reason the Rishis

* I am extremely doubtful about the correctness of this reading. After very attentive consideration, however, I was unable to give any other interpretation to the passage.

† These families were to enjoy their lands rent-free, and in return to serve the brahmans. The custom of making such assignments has existed under every native Government.

have said, that the preservation of a grant is a more pious act than the assignment of it. Rámchundra having given land, again and again solicits future kings: this is a common duty of rulers, and you should protect it from time to time. He, who, though thus entreated, will resume old grants, shall experience the torments of hell. It is further declared, that he who resumes a land given either by himself or by another, becomes a worm in filth for sixty thousand years. He who makes a grant of land, remains in heaven for sixty thousand years; he who resumes it or approves of its resumption, continues in hell for the same period." Considering these sayings of the Munis, all future kings should covet the credit of having performed their duty of preservation. They should by no means eagerly quarrel for setting grants aside. We have set our hands, the own hands of Shri Rahú Rája to this. A grant is purified (ratified) when it is accompanied with seals, formalities, precedents, symbols, and the king's own hands. May there be prosperity. — Written by Lokapárya, son of Shri Déva Pála, employed in the negotiation of war and peace.

ART. III.—*Climate of Karrack.*

Bushire, 14th October, 1842.

To the Secretary to the Literary Society, Bombay.

SIR,—Perhaps the accompanying notes of the range of the Thermometer at Karrack for April, May, June, July and August last, may be acceptable to the Society. They were kept by myself, and are not very neatly written out, but may nevertheless be interesting to any one who wishes to have a minute account of the climate of Karrack during the summer.

I may observe, that I have usually marked the hours of the day when Tatties were used. "No tatties" are registered at the usual Tatty hours when none were used, and when no mention is made of whether there were tatties or not, then there were none. In very hot winds, the difference produced on the Thermometer by the air passing through a good tatty was 12 or 14 degrees, generally the difference was only 8 or 10 degrees; and the difference between the temperature close to the tatty and removed seven feet from it, but opposite to it, in a spacious room was 3 degrees. In a corner of the room not in the direct line opposite to the tatty, the difference was 5 degrees.

As a general rule, when there was wind from any quarter whatever, the heat was bearable, and it was only during the calms accompanying the wind when it had veered to the east and south east, that the air was intolerable. As a general rule, there ought to be three places for sleeping. One a bed in a bedroom with a punkha hung to one of the cross sticks of it, to be used when there is not a breath of wind. One a bed on a terrace, either with or without a fly of a tent on it, for sleeping in when there are gentle or moderate winds from any direction; and one in a verandah facing the north-west to retire to when it blows a gale from the N. W., so as to be entirely fanned by the wind but so as not to be in a draft. In the same night according to the variations of the wind, one may be glad to resort to all three of these contrivances by turns, and so to obtain rest when others who have not made such preparations, pass a sleepless and restless night.

I send you also a memorandum given to me by Colonel Davies of the average range of the Thermometer at Karrack in 1841 during the summer months. The year 1842 was esteemed cooler than 1841; but the months of September and of October till now have been unusually oppressive. From the middle of November till the end May the climate is both agreeable and healthy, although sometimes about the middle of November fevers and colds are severe. This last piece of information I received from Colonel Davies.

I remain Sir,

Your very obedient servant.

H. D. ROBERTSON.

Thermometer at Karack.

	Highest.	Lowest.		Highest.	Lowest.		Highest.	Low.
January,...	61	...	49	February...	65	...	52	March... 69 ... 56

	6. A. M.	2. P. M.	8. A. M.	Aver.	Winds.
January	66	59	67	57	
February	69	61	60	60	
March	65	67	66	66	
April 1st	63	69	64	65	N. W. strong.
2nd	65	68	65	65	„ Hght.
3rd	64	68	65	65½	„ moderate.

DATE.	6 A. M.	9 A. M.	12 A. M.	3 P. M.	6 P. M.	Average.	WINDS AND WEATHER.
4	64	65	66	68	65	65 $\frac{1}{2}$	N. W. moderate gale.
5	65	67	69	72	70	68 $\frac{1}{2}$	Do. calm ; sun hot ; evening, West.
6	67	68	71	71 $\frac{1}{2}$	71	69 $\frac{1}{2}$	South ; warm ; West in the evening.
7	65	69	72	72	71	70	S. Westerly ; light air ; West and N. W. evening.
8	64	71	73	74	72	71	West ; mild ; cloudy ; evening a calm.
9	68	70	72	74	72	71	W. S. W. mild ; clear sky ; S. W.
10	65	72	73	75	73	71 $\frac{1}{2}$	N. W. mild ; calm 12 ; West 2 P. M. S. W. ; strong.
11	67	72	74	75	74	72 $\frac{1}{4}$	Night, East, mild ; noon, West, cloudy.
12	72	74	76	78	76	75	North-East ; cloudy, relaxing ; 12 N. W. ; hotish wind.
13	74	76	77	78	76	76	N. W. ; calm ; more bracing ; muschitos and flies very troublesome since the 8th ; 12 S. W. squalls ; clear weather ; relaxing ; night, South.
Average from first.	66 $\frac{1}{2}$	69 $\frac{1}{2}$	71	72 $\frac{1}{2}$	68 $\frac{1}{8}$	69	

	5	9	2	5	9	Average.	WINDS, &C.
14	70	76	81	80	78	77	Warm ; South ; calm 2 h. ; S. W. ; cloudy.
15	74	75	80	80	78	77 $\frac{1}{2}$	Do. East ; cloudy ; 12 h. S. W. cool.
16	74	78	81	80	76	77 $\frac{3}{4}$	Do. S. W. calm, hazy ; 12 N. W. 2 S. W.
17	74	77	80	79	74	77	N. E. heavy dew, cool ; 11 S. W. ; cool and pleasant.
18	72	77	80	79	75	77	W. heavy dew ; calm 10 ; S. W. ; pleasant.
19	70	75	78	77	75	75	South ; heavy dew ; cool ; cloudy ; delightful.
20	72	75	77	76	75	74 $\frac{3}{4}$	S. E. by E. strong wind ; cloudy 3 h. ; N. W.
21	70	74	76	74	72	73	N. W. gale ; moderate at 3 P. M. ; cold.
22	68	75	78	75	73	74	N. W. cold ; delightful ; 10 h. strong wind.
23	68	74	78	76	75	74	W. N. W. calm ; 11 h. East ; cloudy, drops of rain W.
24	74	77	81	79	75	77	W. N. W. calm ; 9 h. N. E. cloudy, 2 h. W.
25	74	77	82	82	80	80	N. 12 h. N. E. 3 h. S. W. pleasant.
26	76	78	86	82	81	80 $\frac{1}{2}$	N. and N. W. 4 h. S. W. hotish wind.
27	78	82	83	81	79	80 $\frac{1}{2}$	S. strong ; sun observed with dust ; muggy, 4 h. West.
28	75	81	85	83	78	80 $\frac{1}{2}$	W. W. calm 3 h. strong from N. W.
29	75	79	82	80	75	80	Strong N. W. all dry ; delightfully cool.
30	75	77	84	82	81	80	N. W. moderate ; cool ; strong in afternoon.
Average.	73 $\frac{1}{2}$	77	79 $\frac{3}{4}$	79	79 $\frac{1}{2}$	77 $\frac{1}{8}$	
Average from first.	07	73 $\frac{1}{2}$	76	75 $\frac{1}{2}$	74	73 $\frac{1}{4}$	

MAY.

DATE	SUNSHINE	9 A. M.	2 P. M.	5 P. M.	9 P. M.	Average.	WIND AND WEATHER.
1	80	81	85	84	82	82	Strong; N. Wester; hottish.
2	80	82	86	83	80	82	Do. do. do.
3	77	80	86	82	78	80	Do. do. very cool.
4	76	78	83	81	78	79	do. do. very cool.
5	73	74	76	74	73	74	do. do. evening very cool.
6	72	74	78	76	75	75	do. do. moderate 4 h. S.W.
7	68	72	78	75	74	73	Calm, S.W. 1 h. S.W. heavy dew.
8	71	74	82	80	78	77	Calm; W.S.W.; warm.
9	74	76	80	80	78	77½	Ship. Calm; W.S.W.; went to Bushire.
10	76	78	82	08	78	79	Bushire. Calm; W.S.W.; 3 h. arrived.
11	75	80	83	83	81	80½	Bushire. Calm; East. 10 h; S. W. strong breeze.
12	78	80	84	85	84	82	Ship. Variable and calms; heavy dew.
13	79	82	80	80	80	80	Ship. Karrack; warm N.W.
14	80	82	83	82	80	81½	Do. Strong N.W.
15	80	82	84	83	82	82	do. do. do. moderate.
16	82	84	85	86	84	84	Light and variable; tatties.
17	80	83	84	84	82	82½	N.W. fog and dust; hot wind.
18	80	82	84	86	84	83	Do. moderate; very hot wind.
19	81	83	84	86	89	85	Calm; N.E. no wind; relaxing.
20	84	79	80	82	84	82	NW. moderate; evening, strong, pleasant.
21	82	83	82	82	85	83	W.N.W.; cool, gentle, breeze.
22	84	84	82	82	86	83½	N. Wester; hottish wind after 5 p. m.
23	83	84	82	83	86	83½	N West; calms; southerly after 5.
24	82	83	82	82	86	83	Slept on terrace first time. South-west and S. East; hot wind; from 5 p. m. calm.
25	82	83	82	82	85	83	Pitched but on terrace, calm. S. E.
26	83	83	83	83	85	83½	S. W., N., E. South; and S. W. S. W. calm; N. W.
27	84	83	83	83	86	84½	Tatties. N. W. calm; 10 h. N. W. 7 h. West; hot wind till 11 p. m. The wind always hottish from 6 to 10 p.m.
28	86	84	84	84	86	85	Gunfire at 4 h. 7' sunrise at 5 h. 8' wind N. W. moderate. Evening the great Shemaul or Northwest wind of 40 days set in at 3 p. m.

DATE	GUNFIRE.	9 A. M.	2 P. M.	5 P. M.	9 P. M.	Average.	WIND AND WEATHER.
29	86	84	84	84	86	85	Strong gale; hazy.
30	86	84	90	91	92	88½	Elphinstone. Bushire. Do. do. sailed ship for Bushire at 11 A.M. very high wind during the night, accompanied with sand
31	86	88	92	91	90	89½	No tattles. Do. do. high wind during the night. The wind at present coolest from 6 to 10 P. M. at Bushire on the edge of the sea.

Month of June 1842 Karrack and Bushire.

DAYS.	GUN FIRE.	9	2	5	9	Average.	WIND &c.
1	86	93	91	91	90	90	Strong N. West wind, very high during the night; moderate in the morning; Bushire.
2	87	93	91	91	90	90	Do. do. Do.
3	86	86	89	89	88	87½	Do. do. high all day; coolest.
4	84	85	86	86	84	85	Do. do. till 12, then moderate and clear weather.
5	84	86	87	88	84	86	Moderate N. Wester; sailed at 7 A. M. from Bushire. Moderate breeze all day; arrived at Karrack at 6 A. M.
6	82	83	83	84	83	83	Strong wind began again with alternate furious blasts of cold and hot; evening slightly hot.
7	82	83	84	84	83	83	Very strong N.W. wind with dust like yesterday; obscured by the dust; very cool.
8	82	83	83	83	83	83	Moderate N. W.; very cool; yet some difference with a latty and without.
9	82	84	86	88	86	85	At midnight of 8th S. E.; morning S. W.; no tattles; noon West; 4 P. M. N.W. very light; hot day.
10	82	88	88	86	86	86	S. W. by S. calm oppressive; 12 h. no tattles S. W. 4th W. cool.
11	82	86	88	88	88	86½	Tattles. S. E. 9 A. M. evening sailed for Bushire 12 h. S.W. no tattles; 4 h. West; all night calm.
12	84	88	83	83	85	85	Tattles. S. W. cool; 9 A. M. W. N W light wind; not very hot; 5 h. S. W. 7 h. N. E. calm.
13	83	84	83	84	84	83½	Tattles. W. N. W. cool; 10 h. stronger, 4 h. strong N. W. hot wind; Cool wind after 5 P. M.
14	84	86	84	84	83	84	W. N. W. mild and calm; cool 12 h. hot wind light. 5 h. S.W. cool and delightful.
15	84	84	83	83	83	83	W. N. W. mild and cool; 4 P. M. S. W. very cool; 7 h. N.W. hottish, strong till 12 P. M.
16	84	84	84	84	86	84	N.W. fine cool breeze, veering to West; in the evening light breeze.
17	86	86	85	86	86	86	W. N. W. light breeze, very close and warm; night East for 2 hours and S. K.
18	87	88	89	89	88	88	W. N. W. calm; close and hot; 5 P. M. West; calm at 9 P. M. quite in the last two nights very close The morning delightful.

DAYS.	Gun fire.	9	2	5	9	Average.	WIND, &c.
19	89	90	87	79	80	8	N. W. calm till noon, then strong North-wester; very hot wind; 12 degrees difference of tattles.
20	83	88	80	86	87		No tattles. N. W. Cool delightful morning; breeze moderate all night and very light after 1 p. m.; hottish at 5 p. m.; wind S. E. & S. excessively warm; at 9 $\frac{1}{2}$ p. m. breeze from Eastward but perspiration flowing in streams, although cooler at 12 p. m.; wind westerly.
21	86	87	88	89	90		Tattles. 4 A. M. to 3 P. M. N. E. very oppressive. When breeze at 11 cool; 3 h. N. W. light very warm.
22	88	89	84	85	88		Tattles. At 6 p. m. 21st the S. E. set in again till 12 p. m. then the N. W. strong for 3 hours; then calm and heavy dew; at 9 A. M. fine N. W. gentle breeze; strong hot N. W. till 12 p. m.
23	86	86	84	83	86		Tattles. Strong N. Wester without change; not very hot yet 10 $\frac{1}{2}$ difference without & with a tatty, that is placing the thermometer close to the tatty; at a distance 6 $\frac{1}{2}$ difference.
24	86	89	84	84	86		Tattles. N. W. all night and strong during the day; delightfully agreeable all night.
25	85	87	85	85	86		Tattles. N. W. still fine breeze; cool all day and all night and very agreeable.
26	84	86	83	83	86		Tattles. N. W. still; fine fresh breeze till evening when moderate; all night pleasant.
27	84	86	85	89	86		Tattles but no wind. Calm N. W. light breeze; pleasant weather till sunset when wind changed to S. E. and continued till 1 A. M. of the 28th; oppressively hot; without wind.
28	84	86	89	88	86		No tattles. Light N. W. from 1 A. M. till 6 p. m.; warm day & very oppressive night; wind variable from S. to S. E. and N. E. till 3 A. M. of the 29th.
29	85	86	88	88	86		At 3 A. M. N. W. pleasant morning—at 10 A. M. S. E. & South; very oppressive & warm all night while there was a cool-feeling breeze too from the South.—The
30	86	86	88	88	86		wind changed to N. E. at 4 A. M., at 8 S. E. again, and strong enough to feel cool. The air gives the sensation of being loaded with moisture, and from 5 to 8 A. M. there was a dense fog obscuring the sun but not resting on the surface of the earth. The wind kept at South and S. East the whole day and was cool to the feeling, although perspiration flowed profusely. It was at N. W. for half an hour at 2 p. m.

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9th, 10th, 11th, 12th, Southerly winds and oppressive. In June { In all 16 days
20th, 21st. & 22nd, Do. and Easterly; excessively oppressive. { 11 days. { out of the 40 of
27th, 28th, 29th, 30th, Ditto do. do. do. { 9 days { the Shimullawas
1st 2nd 3rd 4th and 5th July, Ditto do. do. do. { continuously. { 24 for the N. W.

21st Winds very variable apparently inclining to N. W. during the day. South and S. E. from 6 to 12 p. m. Westerly till 5 A. M. then variable, then N. W.

22nd A few ripe figs from Shikh Nefin's garden.

24th White grapes within a few days of being ripe.

26th Apples and grapes from Bussora; plums, peaches and pears also on 31st June.

Eclipse of the }
Sun on 8 July } Friday.

JULY 1842.

New Moon 8d. 10h. } For
Full Moon 22d. 14h. 5'. } Karrack.

DAYS,	4	9	2	5	9	Aver- age,	Winds &c.
1	86	89	92	92	83		Still the Shurgee or South-East wind & excessively oppressive, although the wind is cool to the feelings; and the wind is strong occasionally; S. E. all night; till 5 A. M. at N. W. but calm; at 7 then S. and S. W. at 5 P. M. to 12 variable; very warm all night with little or no wind. No tatties for 5 days now.
2	84	86	88	92	88		Still S. E. and calm; excessively warm all day; evening strong S. W. cool breeze till 9 P. M. then change to N. W.; but calm all night and very warm.
3	86	88	96	94	89		Tatties. At 5 A. M. wind at W. S. W.; calm till 1 P. M. then N. W. till 9 P. M.; hot wind till 10 P. M.
4	85	88	86	86	89		Tatties. Hot wind; W. by S. at 5 A. M. W. N. W. at 8; 11 h. hot wind from N. W. not oppressive; but hot except for an hour at evening. The wind was Westerly all night.
5	85	89	86	86	92		Tatties. Hot wind; wind W. N. W.; delightful morning from 4 to 8 A. M.; at 9 hot-tish wind; pleasant day and also night; wind continuing a pleasant breeze from N. W. all night.
New Moon springs.	6	86	90	86	86	92	Tatties. Delightful morning N. W. fine breeze; wind hottish all day; cool behind tatties; evening cool; strong N. Wester; continued cool gale all night.
	7	85	92	86	86	90	Tatties. Delightful gale from N. W. all day and all night quite cool; wind hot during the day but delightful by 6 P. M.
	8	88	89	85	85	88	Do. do. do. do. do. do.
	9	86	88	85	85	89	Tatties. Do. do. do. but much more moderate. Do. do. till 1 1/2 A. M. when it fell calm and punka was required till 5 A. M. of the 11th to 16.
	10	85	88	86	86	89	Tatties. Charming morning; still and calm; wind N. W. (said to be the last breath of the Shimal for this year)—wind all day, a cool breeze at West and delightful evening till 12 P. M.
	11	84	88	85	85	88	Tatties. From 1 A. M. to 4; calm and oppressive (punka), then delightful morning; wind at West; gentle breeze at 1 P. M. strong wind N. W. again and hot; 96 without tatties.
12	85	88	86	85	88		Tatties. The North Wester continued a fine cool breeze all last night (no punka), and same all day to day.
13	85	87	86	85	88		Tatties. Still the N. Wester all day and all night excepting for 3 hours; a S. E. from 10 P. M. to 1 A. M. when it was very warm; afterwards quite cool.
14	84	87	85	85	89		Tatties. Delightful morning again; N. Wester strong with dust; in the evening continued a fresh breeze; all night quite cool.
15	88	92	86	86	92		Tatties. Delightful morning and N. Wester still continued all night, cool and strong; from 28th June till now fogs every day.—The black came in to day.
16	85	87	82	84	90		

DAYS.	4	9	2	5	9	Average.	WINDS &c.
17	84	88	86	86	89		Tatties. N. W. fine breeze. Hajee Yacob says we shall have 14 days yet of this wind, then 7 days calm from sun rise to 11 A. M. thereafter West wind all day and all night. 44 days till Canopus rises and cool weather begins.
18	85	87	85	88	89		Tatties. Do. do. with clouds till 9 A. M. quite cool outside; last night wind ceased for 2 hours from 12 to 2; cool all day; wind for 3 evenings always hot from 6 to 10.
19	87	88	86	87	90		Tatties. Wind hotish all night but not so as to prevent sleeping cool in it; very high at 12 P. M.; morning, charming breeze; cool; high wind all day; not hot, if out of the wind the heat is then felt but in it no sensation of heat. Dates half ripe for cooking.
20	87	88	85	86	91		Tatties. Wind still N. W. but weather getting warmer; cool in the wind but out of it heat is felt. The wind is hot in puffs and generally hot from 7 to 10 P. M. 3 hours calm on 21 from 10 P. M. to 2 A. M. very warm but not oppressive; sandflies during the calm tormenting.
21	88	89	86	87	93		Tatties. No wind this morning but air agreeable at 10 A. M. wind springs up at W. N. W.; hot wind till 10 P. M. then calm.
22	88	90	86	87	94		Tatties. The N. Wester evidently dying off; till pleasant however and thermometer 82 close to the tatty; hot wind till 10 P. M. then cool.
23	88	90	86	87	94		Tatties. Calm but pleasant N. W. veering to W.; weather increasing in heat but still the N. W. wind keeps it cool; night rather warm.
24	88	92	84	88	95		Tatties. Calm weather; growing very hot; N. W. then E. and N. E. at 11 P. M. S. E. the heat very oppressive; came in from veranda and slept under the punks very comfortably; very hot all day; wind at E. S. E. and E. but almost none; very oppressive.
25	88	92	86	86	94		Tatties. Slept to night on the terrace; exceedingly pleasant and gentle airs all night; in the fort the people could not sleep from the excessive heat.
26	88	93	93	93	94		Tatties. Pleasant morning but hot atmosphere, Wind W. then N. W. slight but hot.
27	88	92	84	88	96		Tatties. Strong N. West wind set in after 12 P. M. sky cloudy and sun and moon obscured; hot strong N. W. obliged to descend from terrace at 2 A. M. on account of high wind.
28	90	92	86	88	96		Tatties. Continued hot all day; close to tatty thermometer 78 degrees; slept in veranda to night; cloudy.
29	88	90	86	86	92		Wind still strong at N. W. but cooler; delightful all night; clouds at 10 P. M. but after that time cool & veering to S. W.
30	88	92	86	86	92		Charming morning; moderate N. Wester still; delightful day and night; the wind not hot now in the evenings.
31	88	90	86	86	92		Delightful again; wind at N. W. strong breeze; occasional hot puffs; delightful evening and night.

August.

Monday, 1st New Moon. 6. 18. Full 21. 5 h.

DAYS.	4	9	2	5	9	AVG. AGE	WINDS &c.
1	88	90	85	...	...		Cool and delightful morning ; wind strong at noon always without intermission from N. W. Was too ill to attend to the Thermometer.
2	...	...	...	...	...		Still wind N. W. and delightful weather.
3	...	...	...	...	...		The Shurgee (S. E. wind) commenced and was excessively distressing ; heat the greatest yet felt ; I was attacked with a swelled face (a common complaint) and suffered a good deal.
4	...	...	...	...	...		The North-west wind again set in strong and cool and delightfully fresh all night. Delightful morning ; N.W. strong and cool.
5	...	...	...	...	...		Tatties. Do. do. do.
6	...	...	...	...	...		Tatties. Do. do. do.
7	88	90	86	85	94		Tatties. Do. do. do.
8	87	91	87	86	93		Tatties. Delightful till 5 p.m., when wind died away and changed to East ; oppressive heat for two hours ; then cool breeze from E., from S.E. and S.W. all night.
9	88	91	88	86	94		No tatties. The Shurgee continues to-day, but wind constantly changing ; generally S. and S.W. strong N.E. at midnight ; then delightful S. W. till the morning when it became calm ; Variable all day ; light winds and great heat in the day.
10	88	92	86	86	93		No tatties. N E again from 9 to 2 then South-west ; those who slept on terraces for the last three nights found it delightfully cool ; those in sheltered places and houses dreadfully oppressive ; light N. winds in the morning and very warm ; close warm night ; no wind till 9 A. M.
11	88	90	92	93	93		No tatties. Wind very hot from N.W.
12	87	91	94	93	93		No tatties. Continued a North-wester all night ; pleasant.
13	88	90	91	91	92		Tatties. North-wester but not strong ; all night pleasant.
14	88	100	92	93	94		Tatties. N W. strong ; rode round the island this morning and quite cool till 7 A.M. the S.E. wind set in at 7 p.m. cool wind and strong all night.
15	89	90	88	80	93		No tatties. Variable winds during the past night, chiefly S. W. and S. very cool ; morning still and close.
16	89	90	86	86	92		No tatties. Morning again still and close but the night delightful ; generally S. E. all night ; and E. and S.E. till 1 p.m. when N. W. by W. ; very oppressive from 6 p.m. ; then cool.
17	88	90	94	94	94		Tatties. Morning still and close ; at 1 A.M. very warm wind and variable ; oppressive till 1 p.m. when a N. Wester set in ; evening delightful ; West wind till 1 A.M. then close till 3 A.M. then cool till 7 A.M. S.W. ; then close ; wind E. and
18	89	90	90	94	93		
19	90	91	94	90	94		

D vs.	4	9	2	5	9	AVER- AGE.	WINDS &c.
20	88	90	92	88	92		S. E A Shurgee and variable all day until 1 A.M. of 21st, when N.E. then N. W.
21	89	92	93	89	93		Tatties. Hot wind and warm till 5 P.M. then cool west wind; at 1 A.M. wind set in at N. W. a strong gale.
22	89	94	97	86	94		Tatties Strong gale at N. W. to W. all day but wind hot; all night strong N.W. and cool and agreeable all night.
23	90	94	97	87	93		Tatties Do Do. at N.W. by W. Do. Do. very hot; all night N. W. wind raises Thermometer to 97; close to Tatty 84 only; night very agreeable.
24	90	93	93	92	92		No Tatties. Moderate breeze at N. W. by W delightfully cool wind. No tatties all day; cool winds and delightful night N. W. wind; towards morning felt cold.
25	86	89	91	94	93		No tatties. The temperature of the air greatly reduced to-day; wind still strong at N. W. by W. the dates on the island $\frac{1}{2}$ eaten up; great caution recommended not to get cold by sudden changes; colds give fever at this season; cool all night.
26	88	90	92	86	92		Tatties. Wind comes round to West at 6 A.M. N.W. all night; morning delightful; also the night; threatening gale in the evening; figs ended.
27	88	90	92	86	92		Tatties. strong N. W. gale all night and all day; clouds of dust; quite cool all night.
28	85	88	90	90 $\frac{1}{2}$	90		No tatties. Gale moderated; gentle cool N. W. wind in morning and all day; warm night from 1 A.M. when it fell quite calm; air cool though oppressive.
29	88 $\frac{1}{2}$	88	91	91	91		No tatty. Calm, but air very cool in riding quick; very warm till 2 P.M. when a slight breeze set in; little wind; calm at 7 P.M. slept in tent; delightfully cool W. N. W. from 13 to 4 A.M. then calm; gentle N. W. wind at 6 A.M. East at 10 A.M. and warm but the wind cooling; At 2 N. W. by W. again inclining to west in the evening; night calm and close till 1 A.M.
30	84	88	89	90	89		N. W. wind gentle at 1 A.M. and delightfully cool till daylight then calm
31	84						

Average temperature of European Hospital at Kar- rack with wet Tatties.	Sunrise.	12 o'clock.	3 P.M.	8 P.M.	Average.	
July	87	92	91	90	89	} Tatties till the 15th September.
August	89	93	94	91	92	
September	85	92	93	88	89 $\frac{1}{2}$	
October	79	81	87	84	81	
November	72	78	78	75	76	
December	64	65	65	54	64 $\frac{1}{2}$	

In May and June, the heat was as great as in July, and the nights during two months from 15th July to 15th September, are at times very oppressive and always hot, although a change for the better was perceptible about the 20th of August.

ART. IV.—*Extracts from the Proceedings of the Bombay Branch of the Royal Asiatic Society.*

At a Special General Meeting of the Bombay Branch of the Royal Asiatic Society held in the Library Rooms on Friday the 30th December, 1842, agreeably to the following Resolution of the Monthly Meeting held on the 14th instant :—

“ The Rev. Dr. J. Wilson having intimated his intention to send in his resignation as President of the Society, it was resolved :—

“ That a Special Meeting of the Society be convened, for the purpose of testifying their sense of Dr. Wilson’s valuable services, and high respect for his character.”

It was proposed and carried unanimously :—

1. That a Committee be appointed to draw up an address to Dr. Wilson, expressive of the great respect for his character, and of the high estimation in which the services which he has rendered the Society, during the time he has filled the office of President, are held, — and of its great regret at the cause by which it is deprived of a continuance of his able and valuable services.

2. That the Committee for the above purpose consist of Colonel Dickinson, Dr. Kennedy, J. L. Phillips, Esq., C. Morehead, Esq. M. D., and the Secretary.

3. It was further resolved, that to mark the sense of the Society of the valuable services rendered by Dr. Wilson in the cause of Oriental Literature, he be requested to accept the office of Honorary President of the Bombay Branch of the Royal Asiatic Society.

4. With reference to that part of Dr. Wilson’s letter, referring to the copies of *Yagna* and *Vispárád* in his possession, that he be solicited to permit them to be lithographed at the Society’s expense.

5. That Dr. Wilson’s letter, read at the Meeting, be printed.

The following is the letter referred to :—

MY DEAR SIR,—I have the pleasure of forwarding to you for the Bombay Branch of the Royal Asiatic Society, a copy of a work by myself, which has just issued from the press, entitled “The Pársi Religion, as contained in the Zand-Avastá and propounded and defended by the Zoroastrians of India and Persia, unfolded, refuted, and contrasted with Christianity.”—This work I have taken the liberty of inscribing to the Office-bearers and Members of the Society, in token of my gratitude for the kindness and indulgence extended to me while very imperfectly discharging the duties, and supporting the honours, of the Chair, and for the warm interest which many of them individually have taken in my labours to disseminate useful, but more especially divine, knowledge among the Natives of this great country, whose present social and moral condition, as well as past history, it is one of the principal objects of the Society to investigate and unfold. Though the volume is in some degree controversial in its form, it is fully expository of the principles of the Zoroastrian creed as set forth in the recognized standards, the interpretation, and commentaries of its past and present votaries, and the notices and allusions of classical record and oriental tradition. It contains also several tolerably close translations from the Zand and other Iranian languages, which may, in some degree, facilitate their study in the case of those who may not hitherto have directed to them their attention. I could wish that it were more worthy your acceptance, but such as it is, it has cost me a degree of labour and research which nothing but a warm and sincere regard to the highest interests of the interesting and enterprising class of Natives whom it more immediately respects, could have originated and supported.

I am the more gratified in being able at present to send to our Society this token of my personal regard, because my unavoidable departure for Europe renders it necessary for me,—as I now do,—to tender to the Society my resignation of the honorable office which I have held, through its favour, for upwards of seven years.

In taking leave of the Society, I cannot but express the great gratification and satisfaction which I have enjoyed in its fellowship since the day I was enrolled as one of its Members. The objects which it seeks to accomplish are highly important, whether they be considered as referring to the diffusion of literary and general information, and the cherishing of a liberal sympathy among the members of our own body during their Indian exile, — or the investigation of the languages, customs, religions, and

tiquities, history, and present state of the interesting land in which we sojourn, and the other countries of the east which are contiguous to it ; and the study of the diversified forms of the works of God by which we are surrounded. The foundation by it of the best and most extensive Library in Asia, the establishment of a general Museum, which, though long overlooked, now enjoys, in your own concern for its prosperity, the highest scientific superintendence ; and the varied and numerous contributions which its members have made to oriental literature and to science, are unequivocal proofs that it neither has been inactive, nor unsuccessful in the pursuit of these objects. When I was first called to occupy its chair, I took the liberty of briefly reviewing its past proceedings, and glancing at the field of its present inquiry. I could willingly now advert to its intermediate proceedings, and those of its resident and non-resident members which have been conducted independent of its auspices ; but I have not leisure, at this hour, to do them the justice even of a distinct mention. Major General Vans Kennedy has with singular ability and acuteness, clearly expounded the peculiarities of the six Indian philosophical schools ; and ingeniously compared them with the system of the West. The merits of Mr. Wathen have been next to those of James Prinsep in the discovery of the cave character of India, and the decipherment and translation of ancient inscriptions, the most satisfactory historical authorities of the east. Dr. Bird is most zealously continuing research in the same department, and will soon favour us with a curious and interesting volume. The late Mr. Dickinson furnished us with what we fondly hoped were nearly the first fruits of his high attainments, and historical research and correct and classical taste, in his critical remarks on the Arabic language, and his inquiries into the destiny of the tribes of Israel and the history of Armenia. Dr. Stevenson has opened up a very curious subject of investigation in his interesting and learned papers on the Ante-Brahmanical worship of the Dakhan ; and he has unsealed some of the greatest mysteries of Hinduism by an actual translation of the most distinctive portion of the Sáma Veda. Colonel Sykes has laboriously collected and philosophically analyzed numerous notices of the state of Society in India during the period of the supremacy of the Buddhas, as well as interspersed them with theories, which, established or rejected, must awaken inquiry, as well as aid the arrangement and distribution of facts and circumstances which have been already noticed. In the papers of Captain

LeGrand Jacob of Katiawar, we have had proof of that exemplary diligence and ability, which, if generally imitated and evinced, would soon make us familiar with the antiquities and peculiarities of the different provinces with which we are more particularly connected.—Along the line of march of our army to and from Affghanistan, we have been conducted by a most observant guide, Dr. Kennedy, whose pages bear the impression of much more than the lively fancy, and the play of wit and good humour, by which they are distinguished.—I dare scarcely allude to the last work of the late Sir Alexander Burnes, the most enterprising of our modern British travellers, and in whose death our country suffered its greatest loss, amid late catastrophies. The Hon. M. S. Elphinstone, formerly President of the Society, has given to the world the calmest and most judicious digest of the History of India which has yet appeared, and interspersed it with the result of his own correct observations of the present state of Native Society. We have lately been joined by several promising members; and our Quarterly Journal, so ably conducted by yourself, will, I doubt not, greatly quicken and facilitate their researches. Mr. Eastwick, to whom we have already been indebted for a translation of the *Kissah-i-Sanján*, and who is the author of the translation of the *Zartusht-Namah* in the volume which I send to you, will, I hope, give us versions of all the most curious legends of the Zoroastrians to be found in the Persian language. Captain Ramsay and Mr. Glasgow have furnished us with the legends of the Kathís, one of the most conspicuous tribes in the peninsula of Gujarát; and they may very profitably continue their collections and translations. The Royal Asiatic Society of Great Britain and Ireland, in noticing in their annual report my own paper on the Jungle Tribes of the Northern Konkan, have strongly expressed their wish to be put in possession of articles of a similar nature connected with the several districts of India. The illumination, conversion, and social elevation of the natives, I need scarcely observe, are most intimately connected with our discovery and consideration of their actual state.

I am happy to be able to inform you that the lithographing from my own MS. of twenty-five copies of the *Vandidad*, in the Zand language, but Gujarátí character with a Gujarátí translation, paraphrase, and comment by Aspandiarji Framji assisted by Mulla Firuz and other learned Dasturs of the Kadmi sect, as proposed by Dr. Buist and Mr. Pigott, and readily acquiesced in by the Society, is now completed. The work forms two

neat octavo volumes, and will prove an acquisition very acceptable to the Orientalist desirous of studying the sacred books of the Pársis. It contains their *doctrinal* standards, with many of the traditions from the Pahlavi and Sanscrit, which are supposed to illustrate it. It is put forth exactly according to the copy which came into my possession. I instructed the native who corrected the proofs, to tolerate no departure from the original manuscript, even where it might be thought to be somewhat erroneous. It is a mere *help* to a critical rendering and interpretation of the Vandidád, and as such only should it be received. The copies should be judiciously disposed of, if not sold at cost. There has scarcely been time to receive any orders for any of them from Europe. One, however, has come to my hands. It is from the Chief Librarian of the University of Edinburgh, the Rev. Dr. Brunton. I should like soon to know what the Society intends to do in reference to lithographing the Yaçna, and Visparád, which interspersed with the Vandidád, complete the Larger Zoroastrian Liturgy. Translations into Gujaráti of the Khurdá Avastá, or Minor Liturgy have been published by the Pársis themselves.

I beg to present to the Society two Cufic inscriptions from the South of Arabia. I have kept them by me for some time, in the fruitless hope of being able to forward with them translations. If fac-similes of all the unpublished inscriptions in the museum, were from time to time given in the journal, no difficulty I think would occur in procuring versions. I also present to the Society a copy of the Zartusht-Námah in Persian, lately lithographed on my own account; and a copy in three volumes, folio, of the best edition of the Greek Lexicon of Suidas.

It is not without emotion I sever this link which has bound me to office with the Society; and I beg to assure the members that I shall ever remember with gratitude the kindness which I have experienced at their hands. As opportunities are presented, I shall continue to prosecute the objects which they have in view, and seek an early opportunity of disposing of, in some form or other, the fragmentary collections which I have made in connexion with late investigations. If I can be of the slightest use to the Society in Europe, or in my contemplated journey in Egypt, Arabia, Syria, and other parts, I beg them to command my services.

I am, my dear Sir, yours very respectfully,

JOHN WILSON.

Gay Branch of R. A.
December 1842

P. S.—I have put into Mr. Westergaard's hands the Hamyaric inscription from Aden. He has completed the decipherment. It has turned out to be exactly what it was represented to be at our last meeting.

J. W.

To J. G. MALCOLMSON, Esq., M. D., F. R. S.

Secretary Bombay Branch of the Royal Asiatic Society.

ART. V.—*Fac-similes of two Arabic Inscriptions, in the Cufic character, from Tombstones in Southern Arabia; presented by Dr. WILSON, Honorary President of the Society, with remarks, translations in English, and transcripts in Arabic, by JAMES BIRD, Esq.*

The Fac-similes of these Inscriptions were lately presented to the Society, by the Rev. Dr. Wilson, without any information being given as to their localities, beyond a statement that they were taken from tombstones in Southern Arabia. The contents of them are not without interest; as the earliest of them, No. 1, dated Hejra 326, A. D. 938, makes mention of the tribe of *Muzaynat*, inhabiting this part of the country; and No. 2, dated Hejra 472, A. D. 1080, states that the person buried was the emancipated slave of Mahomed-al-Teflisee, shewing that the intercourse which existed between Southern Arabia and Persia, from the middle of the sixth century of our era, was still kept up in the end of the eleventh. Aden appears to have been the emporium of this part of the country from the earliest times, being mentioned, by Ptolemy the Geographer, as a city of Arabia Felix, situated on the ocean, in the kingdom of the *Homertæ*, or family of Hamyar, descended from Kahtan, son of the patriarch Eber; whose descendants are distinguished from the foreign or adopted Arabs of the family of Ismail, among which the tribe of *Muzaynat* was one, and to which the lady mentioned in inscription No. 1, belonged. About the year A. D. 570, the Abyssinians, who invaded Southern Arabia at the instigation of the Emperor Justinian, anxious to wrest from the Persians their monopoly in the silk trade, had subjugated Yemen, and subverted the Jewish religion in this quarter, substituting in its place that of Christianity. Abrahah, surnamed Al'Ashrem, who was the Abyssian

nian General, seeing the advantages derivable from the concourse of pilgrims frequenting Mekkah as the shrine of the Sabean idolatry, determined to erect a rival fabric at *Sanaa*, to which pilgrims from all parts of the world might resort. To this building, which appears to have been dedicated to the Christian faith, not without some admixture however of the Sabean idolatry, Abrahah gave the name of the Keleisa, or Church; which was completed in exquisite workmanship, and splendour of decoration, calculated to ensure the veneration of all pilgrims frequenting it. In the same metropolis too, was the palace or mansion of the Hamyar kings of Southern Arabia, called *Ghumdan*; which Masudi, writing in the beginning of the tenth century, A. D., states to have been one of the two most famous palaces on earth, and of which the other was the Aiwani Kisra, on the Euphrates near Ctesiphon, and of which an arch is yet remaining. The former is only of interest in the history of Southern Arabia as having been the probable site of those numerous inscriptions, on white marble and stone, discovered in the walls of the houses at *Sanaa*, by Mr. Cruttenden of the Indian Navy, and said by the inhabitants to have been brought from *Mareb*, or the ancient Saba. This character, of which inscriptions have been found at *Hassan Ghoráb* near Aden, and at *Hammam* and *Dis*, has been conjectured to be the *Hamyaric*, while others have supposed that it bears a strong resemblance to the Ethiopic. Certain it is, however, that the use of it, in Southern Arabia, preceded the Arabic character called *Anbary*, and may be the same as the *Mosnad*, or the more ancient character called *Ismaeli*, or *Suri*, which was used previous to the introduction of the Cufic, in which the two inscriptions now translated are written. Captain Haines lately transmitted to the Society a copy of an inscription, in the same ancient character, as found at *Sanaa* and *Hassan Ghoráb*; and which he states to have been taken from a block of white marble dug up in the neighbourhood of Aden. The latter was the port of this part of the country, and the residence of a Nestorian Bishop under the metropolis of Dhafar, whose metropolitans were ordained from Persia, in the time of Cosmas Indicoplestes, about the end of the sixth century: from which period the intercourse with Persia seems to have been constant and uninterrupted. The surname of *Al-Tefisee*, used in inscription No. 2, shewing that the person mentioned was an inhabitant of Teflis in Georgia, would indicate the residence in Southern Arabia of Persian families, even as late as the end of the eleventh century; and to

whom the Zeidi sect of Shias, or followers of Ali, now residing at Sanaa probably owe their origin. The whole of this part of the country offers a wide and interesting field of research for the philologist, and antiquarian; and as the same traditions regarding the fall of Adam and his expulsion from Paradise, with his subsequent residence on the mountains of Ceylon, * are known in the history of the Arabs as well as in that of the Buddhas, it may be of some utility in tracing the religious history of the latter, to ascertain the nature of that connexion which subsisted between Arabia and India from the beginning of the Christian era.

Translation into English of Inscription No. I.

God hath borne witness, that verily there is no God but he, and the angels, and those endowed with wisdom, who professing the same execute righteousness. There is no one but God, the mighty, and the wise.

In the name of God, the compassionate, the merciful. Be merciful, O God! to your slave, the daughter of your two slaves, Fatimah daughter of Ismail, the son of Ibrahim-al-Muzanee: for as much as she was professing there is no God but you, and Mahomed is your slave and prophet. May the peace and blessing of God be upon her, who was declaring your unity, acknowledging your supremacy, was continually trusting to your mercy, and in need of your pardon. Now indeed and departure from friends have conveyed her to you and through which separation from her family, the abodes of the living are become sad, and those of the dead joyous by her association with them; when having retired from this world of trouble, and far from the habitations of men, she has abandoned both family and property. Be merciful to her, O God;

* The figure of *Buddha's* foot which exists at the top of *Adam's peak* in the Island of Ceylon, was identified as a type of our great ancestor previous to the arrival of the Portuguese, on the shores of India; and the Mahomedan author Masudi, A. D. 943. makes mention of mount *Rahwan*, on which Adam descended when expelled from Paradise, adding that a race of Hindus, in the Island of Ceylon, descended from Adam, derived their origin from the children of Cain. The analogy between these traditions of the *Arabs* and *Buddhists*, may probably be traced back to that period of early history, when both people were *Samaneans*; and maintained, according to the authority of the *Mefatih-el-'olum*, that the world had no beginning; while they believed in the metempsychosis, and that the earth is constantly declining.

pardon her faults and forgive her offences ; make spacious her grave, be her companion in her solitude, and join her to her prophet Mahomed, on whom be peace. She died, and may God be merciful to her, on Sunday the sixth day of the month of Ramsan, in the year 326.

Transcript of Inscription No. I in modern Arabic characters.

بسم الله الرحمن الرحيم

اللهم ارحم امّتك وبنت عبدك فاطمة ابنت اسمعيل بن ابراهيم
المزني فانها كانت تشهد ان لا اله الا انت وان محمد عبدك ورسولك
صلي الله عليه وسلم مقرت بوحدا نيتك معترقت بربوبيتك لم تزل
فقيرت الي ارحمتك محتاجة الي امفرك وقد اسلمها اليك الا
خلاص الا وليا فانفردت مني الا خلاء واوحشت بفقد ها منازل الا
حيا وانست بجوارها الموتى وباتت عن المزار وبعدت عن الديار وحا
لت عن الاهل والمال اللهم اغفر خطيئتها وتجاوز عن سيئتها واسع لها في
حقرتها وكن لها في وحدتها واقفا بنبيها محمد عليه السلام توفيت
رحمها الله يوم الاحد لتسع خلون من شهر رمضان سنة ست وعشرين
وثلاث مائة شهد الله انه لا اله الا هو والملايكة اولوا العلم قايما
بالقسط لا اله الا هو العزيز الحكيم

Translation into English of Inscription No. II.

In the name of God, the compassionate, the merciful.

“ But the pious shall be lodged in a place of security, among gardens and fountains : they shall be clothed in brocade and satin, and shall sit facing one another. Thus shall it be : and we will espouse them to fair damsels, having large black eyes.” *

This is the Tomb of the mother of Mahomed-bin-Ikbal, the emancipated slave of Ahmed-bin-Mahomed Al Tefisee ; who died on Wednesday, when six days were wanting to complete the month of Rajab, in the year 472. May God be merciful to her and pardon her crimes ; and may God's peace be on the prophet Mahomed and his descendants.

* See Sale's Al-Koran, end of Chap. 44.

Transcript of Inscription No. II in modern Arabic Characters.

بسم الله الرحمن الرحيم

ان المتقين في مقام امين في جنات و عيون يلبهون من سندس و
استبرق متقابلين كذلك و زوجنا هم بحور عين هذا قبران محمد بن
اقبال موليا احمد بن محمد التفليسي توفيت يوم الاربعاء است بقين
من شهر رجب سنت اثنتين و سبعين و اربع ما يت رحما الله و غفر لها
و صلي الله عليا محمد النبي و اله و سلم

ART. VI.—*Extract from the Proceedings of a Meeting of the
Bombay Branch of the Royal Asiatic Society on the 14th
December, 1842.*

Read the following letter from the Curators of the Museum of Economic Geology of India, requesting the assistance of the Society and its members to carry out the views of the Committee of papers of the Asiatic Society and of Government.

The Curators were authorised to forward to Calcutta, any duplicates that might be considered useful.

"SIR,—I am authorised by the Committee of Papers of the Asiatic Society, to forward to you the accompanying Memorandum relative to the MUSEUM OF ECONOMIC GEOLOGY OF INDIA now forming, in the confident hope that you will personally, and through your friends, kindly assist their views and those of Government, as far as lies in your power.

With respect to carriage of Specimens, such small ones as may not exceed the usual dawk banghy weight, say 500 tolas, may be sent at once, addressed to the Secretary of the Asiatic Society, and those above that weight despatched by the nearest water carriage, preferring the Steamers, if obtainable.

I am, Sir,

Your obedient Servant.

H. PIDDINGTON.

Curator, Mus. Econ. Geology of India."

CALCUTTA, November, 1842.

MUSEUM OF ECONOMIC GEOLOGY OF INDIA.

The objects of the Museum of Economic Geology of India, which has been established by Government at Calcutta, under orders from the Honorable the Court of Directors, in conjunction with the Asiatic Society and at its Rooms, are the following: They are, as scientific men will perceive, generally those of Economic Geologists in all countries, but there are some peculiarities connected with India, and the situations of Europeans in it, which will oblige us to go into a little detail, to explain to those who may not already take an interest in these matters, our wants, our wishes, and our hopes of the advantages which may accrue to the community from this new establishment. Its objects then are briefly these:—

1. To obtain the most complete Geological, Mineralogical, and Statistical knowledge possible of all the mineral resources of India, wrought or unwrought, so as to make them as publicly known as possible; to shew how they have been, or are now wrought, or how they might be so to the best advantage.

2. To obtain a complete set of specimens, models, and drawings, relative to the Mining operations, Metallurgical processes, and Mineral manufactures of all kinds, of India, Europe and America; so as to afford to the public information of every thing which can be turned to account here or in Europe, and perhaps prevent loss of time, waste of capital, and disappointment to the Indian speculator.

3. To furnish the Engineer and Architect with a complete collection of all the materials, natural or artificial, which are now, or have formerly been used for buildings, cements, roads, &c. and of all which *may* possibly be useful in this department, whether European or Indian.

4. To collect for the Agriculturalist, specimens of all kinds of soils remarkable for their good or bad qualities, with the subsoil, subjacent rocks, &c. and by examination of these, to indicate their various peculiarities and the remedies for their defects.

5. To collect for Medical men, the waters of mineral springs, mineral drugs, &c. &c.

6. And finally, by chemical examinations of all these various specimens, to determine their value, and how they may be best turned to account for the general benefit of the community.

With objects like these the Museum of Economic Geology may be said to be placed between the purely scientific geologist and the merchant, the

miner, the farmer, the manufacturer, and the builder, or in other words, the merely practical men, who may desire to know how the knowledge of the geologist and mineralogist,—to them often so recondite, and apparently so useless,—can forward their views: and its office, to be, if possible, to answer all questions of this nature which may arise, for public benefit.

This may sometimes be done from books, but the great library must be the collections of our Museum, which are in fact a library of examples, to which the commentary is the laboratory; where, aided by the resources of the collection, questions may often be solved in an hour, a day, or a week, which it would take half an *Indian* life to obtain the mere materials for investigating. An extensive collection, then, is the first requisite, and this should, if possible, comprise every inorganic product of the earth from which mankind derive any advantage, with every information relative to it. It will readily occur to the reader, that in India, owing to her infancy in some of the arts dependent on these products, as in mining, agriculture, &c.; and her singular progress in others, as in peculiar branches of Metallurgy and the like, our almost absolute ignorance of what her methods and resources are, the peculiarities of situation in which these resources may exist, those of climate, workmen, and many others, we have almost every thing yet to learn; and that to accomplish our objects, we cannot be too well furnished with all the knowledge and examples of Europe and the Americas, and all those of India, or of Asia. Without these, our progress must be very limited; but in proportion as we obtain them, we may hope, without presumption, to see the day when the mines, the quarries, and the soil of India may be done justice to, which assuredly, has never yet been the case.* In this all classes are so clearly interested, that it

* It is curious to find that upwards of 140 years ago, the ores of the precious metals were an article of export from the Dutch East Indies! This is clearly shewn by the following passage from Schlutter's work, as translated by Hellot, and published by him under the title of "*Hellot sur les Mines*," Paris, 1753. In Vol. II. p. 285, Chap. XLVI. "*On East Indian Ores and their Fusion by the curved Furnace*," he says—

"In 174, Schlutter received by a private channel twenty-five quintals of ore from the East Indies, &c." And again: "These sorts of ores (of gold and silver) sent from India by the Dutch were frequently smelted at the foundery of Altenau in the Upper Hartz, but had never been smelted in the Lower Hartz. This ore was in lumps from the size of a nut to that of walnut, and by trials it was found that the quintal of 110lbs. contained 1 oz. 8 dra. of gold and 3½ oz. of silver."

would be superfluous to shew it, as it is to shew that the resources of every country are far more readily developed with public means for investigating, preserving, and publishing all knowledge belonging to them, than where none such exist.

It is therefore hoped, that those who may be desirous of assisting this great public work, will bear in mind, that nothing, however familiar it may be to those on the spot, is indifferent to us ; for *if not wanted for the institution, it may serve to procure that which is* ; and the following note is given rather as a general memorandum than as specifying all which is desired. The general rule is, that details cannot be too numerous, nor specimens too various, particularly if purely Indian.

DESIDERATA FOR THE MUSEUM OF ECONOMIC GEOLOGY OF INDIA.

1.

Mines and Mining Products.

1. Specimens of all crude ores, just as found. If possible also, of the rocks or matrix in which found ; of those indicating the vein at the surface ; of the walls of the veins ; of the strata or beds passed through before reaching them ; and of the rocks of the surrounding country.

2. The ores after preparation for the furnace by picking, washing, stamping, roasting, &c.

3. The rejected ores, gravel or stones found with those used ; which often go under old names, as those of "mother, devil," or the like.

4. The fluxes used, if any.

5. Memorandum of the kind of fuel used, samples of it if coal or coke, &c. ; names of the trees, as bamboo, &c. if charcoal ; and if not too far, send specimens.

6. The roasted or half smelted ore.

7. The pure metals, as obtained in a merchantable state, of all the qualities.

8. The slags, of all kinds, from the furnaces and smeltings.

9. Drawings or models (to scale of possible) of all furnaces, machinery, and implements used in any of the processes, with drawings, plans, and models of the mine. Earthen models of the furnaces, &c. may often be well made, by the native image makers for a mere trifle.

10. Specimens of any tools used.

11. Traditions, history, and statistics of the mine or mineral products, as (1.) How and when found ; (2.) Produce, gross and net ; (3.) Rent if farmed, or what tax payable on the product ; (4.) Price of daily labour ; (5.) Amount of labour obtainable for a given price ; (6.) Estimated profits, past and present ; (7.) Reasons for decay or increase ; (8.) What is now required to make the mine more productive ; (9.) Copies or notices of any books or accounts of the mine ; (10.) Health, comfort, morals, and condition of the workmen employed, average of ages, and of life among them if thought unhealthy ; seasons and hours of work. Superstitious notions, peculiar diseases, &c. &c.

II.

Buildings, Cements, Pottery, Colours, Roads, &c.

1. Specimens from the quarries, of all kinds of building stones, useful or merely ornamental.

2. The same of limestones, shells, corals or other articles, used to make lime or cements of all kinds.

3. Specimens of the strata above and below the quarried stone.

4. Any fossil shells, bones, fish, plants, insects, or other appearances of organic remains large or small, found in or near the quarries, or amongst the rubbish and watercourses of quarried spots. If specimens appear too large to move, please to give a notice, with an eye-sketch, and estimate of the expense of moving, and preserve it till a reply is sent.

5. Specimens of the building stones or remarkable bricks used in any public edifices, monuments or tombs, with the date of their erection if known, and a note to say if exposed to weather or protected by stucco, paint, or roofs.

6. Memoranda and specimens of any plants or animals destructive to masonry, as boring worms and shells in water, and the like, with specimens of their work.

7. Ornamental or stucco-work : specimens of it, new or old, interior or exterior, with the best account procurable of the materials, preparations, and working of them.

8. Specimens of stones and marbles, shells, &c. used for image or ornament-making ; of earths for pottery, and varnishes of coloured earths of all sorts, whether used as pigments or not.

9. Specimens of peculiarly good materials used for roads, whether

ancient or modern, with prices, methods of using them, and other Memoranda.

10. Prices of all the above ; rates of labour, carriage, &c. from the rough to the wrought state, and all other statistical details as in the case of Mines and Mineral products above mentioned.

III.

Agricultural Geology.

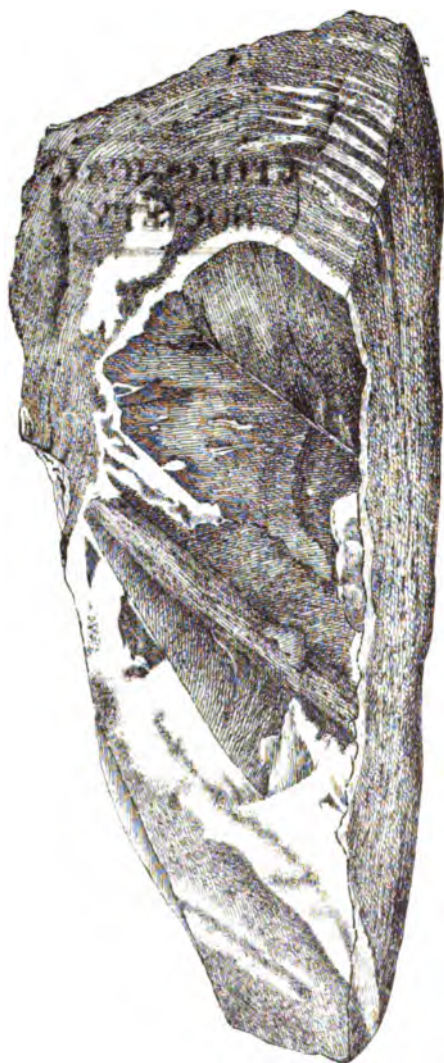
1. Specimens of soils of good, and the best qualities, for all kinds of produce, as sugar, cotton, tobacco, &c.
2. Of infertile soils of any kind.
3. Of the subsoil or rock.
4. Of the stones scattered about these soils.
5. Memoranda relative to the height of these soils above the water of wells in the rains and dry season, and of its drainage, shelter, exposition, &c.
6. Of any kind of earths, mud, or stones used as manures, as peats from the jheels, kunkurs, &c.
7. Of the deposits (fertile and infertile) left either by the common inundations or by violent floods, with memoranda of their effects on the cultivated soil.
8. Specimens from any separate spots, where gravel or stones are collected in quantities after inundations or floods.
9. Accounts of remarkable floods, and average heights of the rise of rivers, of the raising of the soil, alterations in its produce consequent thereupon, and all other details.
10. Memoranda relative to the formation or destruction of river-banks, islands, &c. with measurement if obtainable.
11. Samples of all kinds of efflorescent salt-earths, with specimens of the different salts prepared from them, prices of preparation, selling rates, and accounts of the processes and uses of the salts.
12. Specimens of brine springs, with details of manufactures if boiled for salt, and statistics of labour and produce, &c. as in the case of mines.

IV.

Medical Geology.

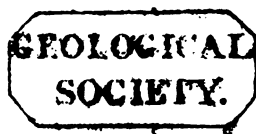
1. Specimens of mineral medicines of all sorts, whether produced on

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the spot or imported, crude and prepared, with notes and samples of the process of preparation in all its stages.

2. Of the water of mineral springs, their temperature, incrustations about them, account of their uses, and specimens of the rocks or soil in which found.

V.

Native Metallurgical Processes of Mineral Manufactures.

1. Exact descriptions of them, however rude or simple they may appear, with samples of the ores, fuel, fluxes, products, slags, &c.

2. Models or drawings (to scale if possible) of the furnaces and implements of all kinds; specimens of these last may be sent.

3. Memoranda and samples of the earths or sands used for moulds in castings, of the crucibles and beds, raw and baked, and of the raw material from which made.

4. Prices of raw and wrought materials.

5. Drawings of machinery used for turning, boring, polishing, &c.

In conclusion: It is not supposed that any individual, unless wholly devoted to the research, can supply the whole of the desired specimens, or even of the knowledge relative to any one product; but any *single* item of the foregoing may be of importance, at sometime, to some one; and it will be the special duty of the Asiatic Society, and of the Curator of the Museum, to see justice done to every contribution; whether relating to the Geology of India in general, or to this peculiar branch of it.

H. PIDDINGTON,

Curator, Museum Economic Geology.

ART. VII. — *Note on Fossil Plants discovered in the Sandstone rocks at Kamptee near Nagpoor.* By JOHN G. MALCOLMSON, Esq.

The accompanying three lithographs represent fossil leaves, discovered in the sandstone quarries on the banks of the Khanan river, opposite to the cantonment of Kamptee, by Lieut. Munro, of H. M. 39th Regt. F. L. S., who at the request of Colonel Walpole, kindly presented them to me. It is very remarkable, that no fossils had been found in these

rocks previous to Mr. Munro's fortunate discovery, as the quarries have been worked for many years, and have been examined by several geologists, including Dr. Voysey, and Capt. Jenkins the distinguished commissioner in Assam. I presume that they must be confined to some thin strata in the sandstone, as during a residence of some years at Kamptee, I did not observe them, although my attention was naturally directed to the subject, by the numerous fossils I had met with in the neighbouring districts. Be the cause of their having been so long overlooked what it may, it affords encouragement to the re-examination of the same rocks which extend over so large a part of the south of India, especially in the Southern Mahratta Country, and in Guzerat, Eedur, &c.

In the Geological map of a great part of the Hyderabad and Nagpoor countries, published in the 5th vol. of the Transactions of the Geological Society of London, I have coloured the Kamptee sandstone, as well as the other rocks of the same character extending along the Wurdah * and Godavery rivers, as the equivalent of the diamond sandstones of the Madras ceded districts, and of the sandstone rocks near Kulladgee, Badamee, and Atchera, in our own neighbourhood. The truth of these identifications, the reasons for which are detailed at length in the paper above referred to, has been since confirmed by a report of Major Wilkinson, the resident at Nagpoor, addressed to the Secretary to the Coal Committee, Calcutta, on the 22d April, 1841. "In Wyragurh, about 90 miles to the south west of the city of Nagpoor, there are diamond mines. I formerly visited them with Mr. Jenkins, when he was resident at Nagpoor; the following

* In the Madras Journal of Science for October, 1834. I have given a figure of a fossil plant, I had discovered some years before in the sandstone of Won in the Hyderabad territory, acquired from the Nagpoor Rajah in 1818. The hill of Won is composed of sandstone, dipping in all directions from the apex, and varying in colour from white to red and yellow. It contains also ferruginous grains or scales, either in seams or disseminated through its substance. In a fragment of this kind much resembling the Bangnapilly diamond Breccia, a fossil was discovered having a compact structure and deep black colour, and it is probably a portion of a hollow, compressed vegetable, the centre of which is filled with the sandstone. It is the only instance that has come to my knowledge of a fossil having been found in the sandstones of Southern India; and as the rock corresponds in Geological position and mineralogical characters with the diamond sandstone, the fact is of considerable interest, even if the formations were not found to be continuous, as will be stated hereafter. The specimen is deposited in the Museum of the Asiatic Society of Bengal. Geological Transactions, vol. 5. p. 557.

is what he has written about them. "The diamond mines of Wyragurh, were formerly celebrated, though now they do not yield sufficient returns to render them worth working. The diamonds were found in earth which forms small hills in the vicinity of Wyragurh. The spots are still distinguishable where they have been dug up. During the reign of the late Raja Raghojee Bhonsla, the mines were worked at a considerable expense, but only a very few small diamonds of little value were found, and they are now entirely neglected."*

But a question of much greater importance here presents itself as to the identity of these rocks with the coal strata of the Bengal Provinces and of the Upper Nerbudda, and also with those sandstone rocks of Guzerat, which appear to be identical in mineralogical characters, and in their geological relations. If this should prove to be correct, coal will most probably be found in the sandstone ranges of the eastern part of Guzerat, in situations sufficiently accessible to render it matter of less regret, that the Nerbudda cannot be rendered navigable much above Tulluckwarra. The fossil plants discovered by Mr. Munro, are, however, too imperfect to enable us to refer them with certainty to any of the few Indian coal plants yet described or figured. They bear a considerable resemblance to the *Glossopteris dancœoides* of the Burdwan coal field, figured by Dr. Royle, in his 2d plate. The narrower leaves may belong to another species, or more probably to a different part of the same plant. The lithographs were executed under the direction of Capt. Smith, of the Madras Engineers, from very beautiful drawings by Mr. Forbes, but as Capt. Smith observes, "subjects like these are very difficult for pen-work lithography, and the people at Madras do not much practice chalk." The consequence is that the cross hatching obscures the structure of the fossil, especially in Nos. 2 and 3. With these plants impressions were found not unlike those of the large bony scales of the sanroid fish of the carboniferous and old red sandstone rocks, especially those of the latter. They are, however, too imperfect to justify any opinion as to their nature, although, in a subject so new, no indication should be overlooked.

* Reports and abstracts of the Proceedings of the Committee for the investigation of the coal and mineral resources of India and Calcutta. *Journal of Natural History* for July, 1842, p. 290.

NOTE.—In a paper on the Geology of the country between Byapoor and Bellary, by Capt. Newbold, published in No. 46 of the *Journal of the Asiatic*

ART. VIII.—*Observations on the Comet of 1843 ; made at the Astronomical Observatory, Bombay.* By DR. BUIST.

Read 12th April 1843.

On the evening of the 4th March, a little after sunset a most extraordinary appearance presented itself in the sky, consisting of a vast beam of light inclining at an angle of 45° towards the South ; it was distant about 35° from the moon, which was to the northward. The right ascension was very near one hour ; the end of the tail, which when first observed was about 20° , was nearly of the same declination with the moon ; the comet itself had set, before its tail attracted notice. The tail was single for about half its length, appearing to exhibit a purplish black shadow at both edges, such as is sometimes perceptible in the bright beams of Aurora Borealis, for which it might, unless from its fixedness and position have been readily mistaken. Towards its upper ex-

Society of Bengal N. S. the following passage occurs, "The softer and finer varieties of the cream colored limestone found in the vicinity of Tallicotta are well adapted for lithographic purposes. Some of the specimens which I brought hence, were sent down to the lithographic establishment at St. Thomas' Mount and found to answer. There is also a fine laminar limestone found in the bed of the river, with beautiful dendritic appearances between the plates. A specimen of this dendritic limestone was examined for me, by Dr. Wight, who kindly affords me the following note. "The arborescent appearance in the slate I think an organic remain. At least, I find, when under a high magnifying power, that the black lines can, with the point of a needle be pricked off without touching the stone, as if the carbonaceous matter of the plant was still there. I feel uncertain, however, whether to call the original a moss, or fungus, but think the latter."

As this observation will probably find its way into other works, with the weight which will justly attach to the names of the observers, I think it may be useful to remark, that these markings are probably nothing more than metallic arborizations, such as abound in this limestone wherever it occurs. Fine examples may be seen in the collection of rocks from the Southern Marhatta Country, presented by Lieut. Hibbert of the Engineers especially those from Tallicotta. At page 554 of the 5th vol. of the Geological Transactions, I have noticed a report of the same kind of fossil plants said to have been found in the Cuddapa limestones, but which I ascertained to be mere dendritic markings on the surface of the strata.

tremity it seemed for a few nights to be divided by a thin line of shadow ; this was not perceptible after the 10th.

It had been observed so early as the 2nd and 3rd of the month at Madras and various other parts of India, but was not noted at Bombay. At Agra it was for a time believed to be an exhibition of Zodiacal light. The stars were perfectly visible through all parts of the tail.

Bombay 4th March 1843. Altitude of the Summit of the Tail 10° pointing S. E.

"	Azimuth of	Do.	do.	113°	} at 7h. 15' P.M.
"	"	"	Base	104°	

5th March, Sunday. The head was very distinctly visible above the horizon shortly after sunset, and left no doubt that it was a magnificently developed comet. Its splendor was however considerably impaired by the light of the moon; on the 5th and 6th the tail of the comet seemed to vibrate pulses of light appearing to shoot out longitudinally every 15 seconds. This appearance was observed by several individuals simultaneously, who were perfectly at one as to the interval of time between the pulses. There were no more noticed after the 7th, on which night they were only slightly apparent. The subjoined observations were made at the Bombay Government Observatory, Colaba, Lat $18^{\circ} 53' 52''$ N. Lon. $4^{\text{h}} 51' 19''$ E. by Kera Laxuman C. a young Bramin, one of the assistants, who had been carefully instructed by Professor Orlebar. The instrument employed was an altitude and azimuth circle, the length of the telescope being 23 inches, with semi-diameter of the altitude and azimuth circles 6.5 and 8.5 inches respectively, made by W. T. Gilbert. This was placed on a large stone pillar based upon the ground, and terminating under the cupola of the Observatory, at an elevation of 75 feet above the mean level of the sea; the instrument like most of the others in the Astronomical Department of the Observatory, is by no means such as could be trusted for accurate or precise observations. The altitudes given in the subjoined are uncorrected for refraction, and the azimuths are measured from the South and not from the North, as the term generally means. The time given is Bombay mean time at the Observatory.

The following observations were made at the Observatory on the evenings of 6th, 7th, &c. till the end of the month, at which latter date the comet became too obscure to be fit for observation,

Time 1843.		Akitude.	Azimuth.	Approximate length of Tail.	Remarks.
	h. ' "	° ' "	° ' "		
Mar. 6th	6 51 15	7 1 2	74 39 11		Clear.
"	6 56 32	5 46 34	75 6 41		"
"	7 1 44	4 41 20	75 33 31		"
Mar. 7th	6 46 13	10 27 10	73 16 34	34°	"
"	7 1 27	7 2 40	74 39 18		"
"	7 22 52	2 16 57	76 28 17		"
Mar. 10th	6 50 18	15 50 51	71 13 6	34°	"
"	7 11 32	11 5 27	73 17 46		"
"	7 32 36	6 23 51	75 12 23		"
Mar. 11th	6 51 4	17 32 15	70 37 16		"
"	7 21 14	10 48 45	73 38 19		"
"	7 51 31	4 2 20	76 17 38		"
Mar. 13th	7 21 22	14 8 45	72 42 21		"
"	7 35 37	10 55 54	74 4 21		"
"	7 45 36	8 42 30	75 0 44		"
Mar. 17th	7 49 13	13 14 15	74 20 53	34°	Fainter.
"	7 52 5	12 34 45	74 35 7		"
"	7 56 24	11 35 46	75 1 35		"
Mar. 18th	7 45 21	15 7 55	73 46 4		"
"	7 56 27	12 37 1	74 55 17		"
Mar. 19th	8 3 29	11 58 20	75 28 18		Faint.
"	7 3 2	25 32 33	69 5 11		"
Mar. 21st	7 21 34	23 17 49	72 4 16	33°	"
"	7 30 53	21 3 26	72 6 32		"
Mar. 22nd	7 41 19	19 23 22	73 12 4		Very faint.
Mar. 24th	7 39 11	21 3 48	73 5 27	30°	"
Mar. 26th	7 55 52	18 11 13	74 55 35	27°	"
Mar. 27th	7 30 28	24 20 33	72 22 16	26°	"
"	7 38 13	22 37 11	73 12 59		"
Mar. 29th	7 46 58	21 12 25	74 28 9	23°	} Observation within 3 minutes of arc. The Head of the Comet disappearing altogether.
Mar. 30th	7 43 56	22 8 20	73 17 55	21°	
Mar. 31st	do.	do.	do.	20	

The Tail was observed till the 4th of April, on which it disappeared also.

These observations were taken with great care, but the comet becoming obscure towards the end of the month, could not be distinctly seen in the telescope; the observations about that period therefore, should be considered right only within three minutes of arc.

ART. IX. — *Meteorological Observations.*

The Observations in the present number were made at the Magnetic Observatory. The Barometer is a standard of Newman; the readings are

continued as noted from the scale, without correcting for temperature or capillary. The Barometer from which the Observations for May, June, and July 1841, were noted, is a standard by Adie of Edinburgh;—its readings are 0.150 higher than those of Newman; so that assuming this last for the true standard, and as such it is now employed, 0.150 must be subtracted from the observations of No. 1 of the Journal to reconcile them with the others. The most of the instruments in use till September 1842, were the same as those noted by Professor ORLEBAR.

The term-day observations of July due to the following number were lost; the assistants had at this time dropped away one after another, till one only remained and he was sick. From the 1st September the hourly readings continue uninterrupted, and the means of the month, instead of the term-day observations, will be supplied for future numbers after the month of August.

GEORGE BUIST.

In charge of the Observatory.

Magnetic Observatory, Colaba, Meteorological Observations, 21st April 1842.

Bombay Mean Time.	Standard.		Thermo.		Differ- ence.	Correct. Barom.	Wind. Direction.	Remarks.
	Barom.	Thermo.	Dry	Wet.				
h. 2 12	29.832	83.5	81.8	76.8	5.0	29.685	N.W.	Clear.
3	29.820	83.2	81.8	76.8	5.0	29.674	..	"
4	29.838	83.0	81.5	77.0	4.5	29.693	N.W.byn.	"
5	29.832	82.9	80.2	75.8	4.4	29.687	..	"
6	29.850	81.9	80.0	76.0	4.0	29.707	..	" and calm.
7	29.876	82.9	83.2	77.5	5.7	29.781	..	" "
8	29.892	84.5	84.6	78.2	6.4	29.743	N.W.	"
9	29.906	85.8	85.5	77.8	7.7	29.762	..	"
10	29.900	86.3	85.8	78.8	7.0	29.744	..	" Fresh breeze.
11	29.892	86.9	86.4	78.8	7.6	29.736	..	" " "
0	29.872	87.2	87.1	77.8	9.3	29.715	..	" " "
1	29.844	87.2	86.9	77.0	9.9	29.687	..	" Strong breeze.
2	29.820	87.5	87.2	76.0	11.2	29.662	..	" with " "
3	29.800	87.7	87.2	74.8	12.4	29.642	..	"
4	29.796	87.4	87.0	72.2	14.8	29.640	..	"
5	29.790	86.8	86.0	72.2	13.8	29.635	..	" Strong breeze.
6	29.800	86.2	84.0	71.8	12.8	29.649	..	" Gentle breeze.
7	29.804	84.6	83.0	77.8	5.2	29.654	N.E.	" Fresh breeze.
8	29.822	84.5	82.9	74.6	8.3	29.672	N.W.	" " "
9	29.828	83.9	82.5	74.5	9.0	29.680	..	" " "
10	29.830	83.6	82.0	74.9	7.1	29.683	..	" " "
11	29.822	83.3	81.9	75.0	6.9	29.676	..	" " "
0	29.812	83.0	81.6	75.0	6.6	29.667	..	" " "
1	29.800	82.9	81.3	75.1	6.2	29.655	..	" with a few Cirrus.

Magnetic Observatory, Bombay, Colaba, Meteorological Observations, 23d May 1842.

Bombay Mean Time.	Standard.		Stand. Thermo.	Thermo.		Differ- ence.	Correct. Barom.	Wind.		Remarks.
	Barom.	Thermo.		Dry	Wet.			Dirac.	Force.	
6	29								Gentle	
7	29.830	83.5	83.9	83.1	74.5	8.8	29.683	W.	..	Clouded.
8	29.840	84.2	83.8	83.2	75.9	8.3	29.689	S.	..	" with light rain.
9	29.846	84.9	84.0	83.4	75.0	8.4	29.695	..	..	" and no rain.
9½	29.850	85.4	84.8	84.0	75.2	8.8	29.699	..	..	" " "
10	29.850	86.0	85.9	84.9	75.4	8.5	29.697	..	..	" " "
10½	29.848	86.5	85.9	85.8	75.8	10.0	29.693	..	..	7-8ths Clouded.
11	29.840	86.6	86.1	85.8	76.0	9.8	29.686	S.W.	..	6-8ths " "
0	29.830	87.0	86.7	86.4	76.0	10.4	29.674	..	..	" " "
1	29.820	87.8	87.0	86.9	76.5	10.4	29.651	..	..	7-8ths " "
2	29.808	87.9	87.6	87.2	77.0	1.02	29.649	..	..	3-8ths Cumulostratus and Cumulus.
2½	29.796	88.2	88.0	87.9	77.6	10.3	29.637	..	..	" " "
3	29.778	88.5	87.9	87.2	77.5	9.7	29.618	w.by s.	..	Clear in the N., and W., 3-8ths Cumulostratus
3½	29.778	88.3	87.8	87.2	78.5	8.7	29.619	S.W.	..	" " " "
4	29.768	88.2	87.6	87.2	78.8	8.4	29.609	..	..	Z. Clear 2-8ths Cumulostratus and Cirrstratus in N. E. and S. with Cerri in the W.
4½	29.762	88.1	87.6	87.0	78.5	8.5	29.603	W.S.W.	..	" " " "
5	29.762	87.9	87.4	86.8	77.8	9.0	29.604	..	..	" 1-8th " "
5½	29.764	87.5	87.0	86.3	78.6	7.7	29.607	..	..	Zenith clear, Cumulus and Cumulostratus in N. E. and S.
6	29.768	87.3	86.8	86.5	78.0	5.5	29.602	w.by s.	..	" " " "
7	29.776	86.2	85.2	84.5	77.2	7.3	29.623	w.by n.	..	Clear with moonlight.
8	29.786	85.3	84.5	84.0	77.0	7.0	29.629	..	..	A few clouds in the east.
9	29.790	85.0	84.1	84.0	76.0	8.0	29.640	..	..	" " "
9½	29.790	84.9	84.0	83.9	76.5	7.4	29.640	..	..	" " "
10	29.796	84.8	84.0	83.8	76.2	7.6	29.646	..	..	Clear.
10½	29.796	86.7	84.0	83.8	76.2	7.6	29.642	..	..	"
11	29.796	84.5	83.9	83.7	76.3	7.4	29.647	..	..	A few clouds in the S. and E.
0	29.786	84.4	83.8	83.5	76.8	6.7	29.637	..	..	5-8ths Overcast.
1	29.778	84.2	83.6	83.2	77.2	6.0	29.628	..	..	7-8ths "
2	29.764	84.2	83.6	83.2	77.5	5.7	29.616	..	..	4-8ths "
2½	29.764	84.2	83.5	83.0	76.8	6.2	29.616	..	..	6-8ths "
3	29.764	84.0	83.4	83.0	76.8	6.2	29.617	..	..	7-8ths "
3½	29.760	84.0	83.2	83.0	76.7	6.3	29.612	..	..	" " "
4	29.760	83.9	83.2	82.9	76.5	6.4	29.612	..	..	" " "
4½	29.772	83.9	83.0	82.9	76.5	6.4	29.625	..	..	" " "
5	29.788	83.8	83.0	82.8	76.4	6.4	29.441	..	..	" " "
5½	29.800	83.9	82.1	82.9	76.8	6.1	29.652	..	..	" " "

Magnetic Observatory, Colaba, Meteorological Observations, 21st June, 1842.

Bombay Mean Time.	Barom.		Stand Thermo.	Thermo.		Differ- ence.	Correct. Barom.	Wind.		Remarks.
	Barom.	Thermo.		Dry	Wet.			Direct.	Force.	
A. M.										
6	29.526	82.6	81.6	81.6	79.0	2.6	29.383	W.S.W.	..	8-8ths Numbis.
7	29.524	82.2	81.8	81.2	78.6	2.6	29.382	W. by N.	..	" "
8	29.526	82.3	81.4	80.5	78.0	2.5	29.424	W.	..	" " Light rain.
9	29.530	82.8	83.8	82.3	79.1	3.2	29.436	..	..	" " no rain.
9½	29.560	82.8	83.8	82.2	79.0	3.2	29.436	..	..	" " "
10	29.568	82.6	81.5	81.0	78.5	2.5	29.445	..	..	" " Light rain.
10½	29.568	82.6	81.8	81.0	78.5	2.2	29.445	..	..	" " "
11	29.590	82.6	82.3	82.0	79.0	3.0	29.447	W. by S.	..	" " no rain.
0	29.590	83.0	82.0	82.2	79.0	3.2	29.447	..	..	" " "
1	29.560	82.6	81.2	80.0	78.5	1.5	29.436	W. by N.	..	" " heavy rain.
2	29.560	82.8	82.8	82.0	79.5	2.5	29.436	W. by S.	..	" " light rain.
2½	29.560	82.5	82.4	81.9	79.4	1.5	29.436	..	..	" " heavy rain.
3	29.570	82.8	81.6	81.2	79.2	2.0	29.426	..	..	" " "
3½	29.570	82.7	81.7	81.0	79.0	2.0	29.427	N. W.	..	" " "
4	29.570	82.9	82.2	81.6	79.2	2.4	29.426	..	..	" " Light rain.
4½	29.560	82.8	81.8	80.8	78.0	2.8	29.416	N.	..	" " no rain.
5	29.560	82.3	81.2	80.8	78.5	2.3	29.424	..	..	" " "
5½	29.566	82.2	81.2	81.0	78.5	2.5	29.424	S. W.	..	" " "
6	29.566	82.3	81.2	81.0	78.2	2.8	29.424	..	..	" " "

The above only extend over a period of twelve hours. Professor Olebas left Bombay for Europe on sick certificate on the 1st of May, and his successor was placed in charge on the 15th of July; at this time there was only a single assistant in the Magnetic and Meteorological department of the Observatory: and without losing the day, before or after the term day, it was impossible for him to attempt the consecutive hourly observations.

ART. X.—Copy of the Asoka Inscription at Girnar. By
Capt. L. G. JACOB, and N. L. WESTERGAARD, Esq.

The following inscription should have appeared at the beginning of this number, but it was thought advisable, to defer putting it into the hands of the lithographer, until Capt. Jacob could be consulted as to the mode of having it executed. The lithographed copy itself has unfortunately not had the benefit of Capt. Jacob's revision, but it is hoped, that it will be found to be a faithful transcript of the original. Another copy

has been transmitted by Mr. Westergaard to Professor Lassen, and will probably appear in Germany, with the advantage of a commentary by that celebrated orientalist. The original is deposited, for reference, in the library of the Society.

If any apology were required for publishing a correct copy of the most valuable historical monument yet discovered in India, it will be found in the following extract of a private letter, dated the 8th April, from Capt. Jacob, who devoted a long time to making and correcting the copy. Those who take an interest in the subject will find Mr. J. Prinsep's papers, and the Journal of Lieut. Postans' Journey, made by order of the Supreme Government, at pages 219, 334, 365 and 864, of the 7th vol. of the Journal of the Asiatic Society of Bengal for 1838.

"The History of the Girnar Inscription's copyings is first to be seen in Prinsep's Journal. You are aware of his attempt to obtain more perfect copies than those first made by Capt. Lang, at the instigation of our late President. For this purpose, Lieut. Postans was deputed to Joonaghur, who took infinite pains to secure exactitude, aided by Capt. Lang who was with him at the spot.

"These copies were forwarded to Calcutta, but reached as the ever to be lamented Prinsep was on the eve of departure from the land which his genius had helped to illumine. The MSS. and cloth copies rotted in the Calcutta godown. I gave a duplicate copy of the cloth copy to your predecessor at Postans' request, for the London (Parent) Society, but never could ascertain what became of it.

"I undertook to make fresh copies of these Inscriptions for the Calcutta people, and I had been engaged some time in the rock when Mr. Westergaard arrived in India. I gave him my present copies, and we went over them partly together at the rock. The old Asoka inscription you are now about publishing, was I think nearly faultless; but for the two published in your last number, you are indebted chiefly to our Danish brother's labours for the correct form in which they appear."

Further Description of the Inscriptions on the Eastern Sides of the Gopuram at Masipalayam.
 1. 2. (P) Division.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

* Principle of natural fracture.

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4th Division.

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5. Division

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gth Division

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8th Division

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12th Division

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Handwritten text in Amharic script, likely a title or header.

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Handwritten word, possibly "Dawit" or similar.

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Part 1

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JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

OCTOBER, 1843.

ART. I.—*Translation of an Inscription found at Nagpore;
with a Fac-simile, and Transcript in Balbodh.*

By BALL GUNGADHAR SHASTREE, Esq.

Remarks on the historical value of the Inscription.

1. The accompanying Inscription, copied from a stone at Nagpore, was sent to me last year by Dr. Stevenson, to whom it had been transmitted by Mr. L. R. Reid. On examining it attentively, I found that, though copied with some care, it was inaccurate in many places; and besides wanting one or two lines at the commencement, had blanks in different parts, in which the letters must have been illegible on account of fracture or some other circumstance. The part omitted at the beginning, is, however, of no consequence in a practical point of view; for, since the two or three lines that follow contain the customary invocations, it could not possibly have reference to any other subject. In regard to the blanks, I have filled them up with such words as were suggested by the context; and it is highly satisfactory to find that with the exception of the name of one king, very little of the important part of the Inscription can be affected by any difference of opinion in regard to my conjectural readings, which, as admitting of doubt, I have distinguished with a mark of interrogation or enclosed within brackets.

2. It will be perceived from the subjoined English Translation, that

the Inscription contains a kind of eulogy on the kings of the Pramár family, written during the reign of Nara Varma, in the Samvat year 1161 or 1105 A. D. The race whose achievements it commemorates, is one of the four Agniculas, the account of whose birth or regeneration from the sacrificial fire of Vasishta Muni, as given by Col. Tod, is repeated in the 10th verse ; though the motive assigned by the imagination of the poet to Vasishta for creating new tribes of Kshatriyas, is a desire of taking revenge on his opponent Vishwámitra, and not the general prevalence of heterodoxy and vice all over India.

3. The Pramáras (more properly Paramáras according to our Inscription) appear to have acted an important part in the history of the middle ages of India. I extract the following remarks from the authority just cited, regarding the extent of their territory, the names of the principal kings of their family, and the capitals to which their power was transferred at various periods.

“ The Pramára, though not, as his name implies, the chief warrior, was the most potent of the Agniculas. He sent forth thirty-five *sachæ*, or branches, several of whom enjoyed extensive sovereignties. “The world is the Pramáras,” is an ancient saying, denoting their extensive sway ; and the *No-kote maroosthullí* signified the nine divisions into which the country, from the Sutledge to the ocean, was partitioned among them.

“ Maheshwar, Dhar, Mandoo, Oojein, Chundrabhaga, Cheetore, Aboo, Chandravati, Mhow, Maidana, Parmavati, Omrakote, Bekher, Lodurva, and Puttun, are the most conspicuous of the capitals they conquered or founded.

“ Though the Pramára family never equalled in wealth the famed Solanki princes of Anhalwarra, or shone with such lustre as the Chohan, it attained a wider range, and an earlier consolidation of dominion than either, and far excelled in all, the Purihara, the least and last of the Agniculas, which it long held tributary.

“ Maheshwar, the ancient seat of the Hya kings, appears to have been the first seat of government of the Pramáras. They subsequently founded Dharanagar and Mandoo on the crest of the Vindhya hills ; and to them is even attributed the city of Oojein, the first meridian of the Hindus, and the seat of Vicrama.

“ There are numerous records of the family, fixing eras in their history, of more modern times ; and it is to be hoped that the interpretation

of yet undeciphered inscriptions, may carry us back beyond the seventh century.

"The era of Bhoj, the son of Monj, has been satisfactorily settled; and an inscription in the nail-headed character, carries it back a step farther, and elicits an historical fact of infinite value, giving the date of the last prince of the Pramáras of Cheetore, and the consequent accession of the Gehlotes.

"The Narbada was no limit to the power of the Pramáras. About the very period of the foregoing inscription, Ram Pramár, held his court in Telungana, and is invested by the Chohan bard Chand, with the dignity of paramount sovereign of India, and head of a splendid feudal association, whose members became independent on his death. The bard makes this a voluntary act of the Pramáras; but coupled with the Gehlote's violent acquisition of Cheetore, we may suppose the successor of Ram was unable to maintain such supremacy.

"While Hindu literature survives, the name of Bhoj Pramára and 'the nine gems' of his court cannot perish; though it is difficult to say, which of the three princes of this name is particularly alluded to, as they all appear to have been patrons of science.

"Chandragoota, the supposed opponent of Alexander, was a Mori, and in the sacred genealogies is declared of the race of Takshac. The ancient inscriptions of the Pramáras, of which Mori is a principal branch, declare it of the race of Tusta and Takshac, as does that now given from the seat of their power, Cheetore.

"Shalwahan, the conquerer of Vicramaditya, was a Takshac, and his era set aside that of the Tuar in the Dekhan.

"Not one remnant of independence exists to mark the greatness of the Pramáras; ruins are the sole records of their power. The prince of Dhát in the Indian desert, is the last phantom of royalty of the race; and the descendant of the prince who protected Humayoon when driven from the throne of Timur, in whose capital, Oomerkote, the great Akbar was born, is at the foot of (the) fortune's ladder; his throne in the desert, the footstool of the Bulotch, on whose bounty he is dependent for support.

"Among the thirty-five Sachæ of the Pramáras, the Vihil was eminent, the princes of which line appear to have been lords of Chamravati, at the foot of the Aravulli.

"The Rao of Bejalli, one of the sixteen superior nobles of the Rana's

court, is a Pramára of the ancient stock of Dhar, and perhaps its most respectable representative.*"

4. As the preceding passage is almost the only one in the Annals of Rajesthan, which has an exclusive reference to the Pramáras, I have taken it entire to shew the result of the investigations of Col. Tod in regard to this family. I may state that those of the events mentioned by him, which relate to the whole of the period antecedent to the eleventh century of the Christian era, appear to rest almost entirely on tradition, the only written documents discovered before the time he wrote, being three copper-plate grants found at Ujjayani, two bearing dates between the *Samvat* years 1192 and 1200, and one without date.† After a careful examination of their contents, Mr. Colebrooke considers them as authenticating the following series of kings; viz, Udayaditya Déva; his son Nara Varma Déva; his son Yasho Varma Déva; and his two sons Jaya Varma Déva, and Lakshmi Varma Déva; the reigns of these princes extending from the latter part of the eleventh century of the Christian era to near the close of the twelfth. Col. Tod carries the line retrospectively on the authority of the *Madhu-caraghar* Marble and *Bhoja Charitra*, and places the names of Sindhu, Munja, Sindhula and Bhoja, before that of Udayaditya, the earliest king mentioned in the Ujjayani Plates.

5. A copper plate-grant, dated Samvat 1267, was found at Piplianaggar, in the territory of Bhopal, by the late Mr. L. Wilkinson, the Political Agent at that place. The inscription upon it, which appears with a translation by him in the Journal of the Asiatic Society of Bengal for July 1836,‡ brings down the genealogy to the beginning of the thirteenth century of Christ; following the prince, last mentioned in the Ujjayani plates, with the names of Vindhya Varma, Amushyayana, Subhása Varma and Arjuna; and, as the late Mr. Prinsep observes in a note upon it, "exactly filling up the blank between the former prince and Birsal in 1220." This document also mentions Bhoja, as being the father of Udayaditya, confirming the last of the three names, prefixed by Col. Tod to the Ujjayani list, on an authority which might be regarded as not altogether decisive.§ Another copper-plate grant, found in the

* Annals of Rajesthan Vol. I. p. 91.

† Trans. of the Royal Asiatic Society. Vol. I. p. 231.

‡ See page 377.

§ Two other grants by this same king, Arjuna, dug up at Piplianaggar, ap-

same locality* by Mr. Wilkinson, supplies the name of Harrischandra Déva, the son of Lakshmi Varma, the brother of Jaya Varma. This is dated Samvat 1236, or A. D. 1180.

6. The Nagpore Inscription, now brought to light, contains, as before observed, an eulogy written by order of Nara Varma in Samvat 1161, or A. D. 1105, descriptive of the glory and achievements of his ancestors, and particularly his brother, Lakshmídhara. It will appear to be a document of some historical importance, as it confirms the names of Udayádivya, and his father, Bhoja, mentioned in the various records above referred to, and supplies the names of Bhadra Rája, Bhoja Rája, Bhimaka, and Vairi Sinha, ascending upwards from Bhoja in a reverse order of time, and carrying the line about 80 years backwards, or to the year A. D. 965, at an average of twenty years to the duration of each reign. These names, arranged in the order of time, and connected with those already found in other grants, will stand as follows.

- 1 Vairi Sinha.
- 2 Bhímaka (his son.)
- 3 Rája Rája or Bhoja Rája† (his son.)
- 4 Bhadra Rája (his younger brother.)
- 5 Bhoja Déva (his son.)
- 6 Udayaditya (his son.)
- 7 Lakshmídhara (his son.)
- 8 Nara Varma Déva (A. D. 1105 his brother.)
- 9 Yasho Varma Déva (A. D. 1137 his son.)
- 10 Jaya Varma Déva (his son.)
- 11 Lakshmi Varma Déva (his brother.)
- 12 Vindhya Varma (son of Ajaya Varma.)
- 13 Harrischandra (A. D. 1179 son of Lakshmi Varma.)
- 14 Amushyayana (son of Vindhya Varma.)
- 15 Subbhása Varma (his son.)
- 16 Arjuna (his son A. D. 1211.)

pear to correspond with this, word for word, one later by three and the other by five years.

* See page 736, Journal of the Asiatic Society of Bengal for August 1838.

† The first syllable being a blank, either र, भो, or any other letter may be supplied. This is the exception alluded to in para. first of this paper.

It must be noticed that in this enumeration, we see nothing of Sindhu, Múnja, or Sindhula, placed by Col. Tod before the 5th Prince on the authority of Bhoja Charitra, &c.

7. Though we have two Bhojas in the above list, neither of them can, for a moment, be supposed to be identical with the famous patron of the "nine gems;" for had either been a lover of literature to any extent, the writer of our Inscription, who does not appear to have much regard for truth when exalting the merits of the ancestors of his master, would surely never have omitted to take due notice of such an agreeable topic. The theories of Mr. Bentley and Major Wilford, the former of whom places the reign of Rája Bhoja between the years 982 and 1082 A. D. and the latter supposes the death of that prince as having occurred between 977 and 982 at the latest,* appear, therefore, to have been shaken to the base by a clear and forcible evidence, the existence of which could not have been imagined at the time those distinguished orientalists wrote.

8. The records of the Pramára kings, already collected, are also quite sufficient to shew how little reliance ought to be placed on the genealogies of the Hindu kings, given by Abul Fazil in the Ayeen Akbari. In his list of the Malwa kings, quoted in Mr. Prinsep's Chronological Tables,† it is difficult to identify even half of the names contained in the preceding catalogue.

9. In such a hyperbolic eulogy as the accompanying, no particular importance can be attached to any of the exploits assigned to the elder Pramáras, or to Lakshmidhara. But the defeat of Karna, king of the Karnatica, by Udayaditya; the conquest of Tripura by Lakshmidhara and his victories over the Angas, the Kalingas, the chieftains of the south as far down as Rama's bridge, and those of the north as high as the country of the Turushkas, on the banks of the river Vanku, some stream perhaps in Káshmir, may be particularized as shewing the great extent of the resources of the Pramáras at the period under investigation.

10 The villages granted by Lakshmidhara, and confirmed by his brother and successor Nara Varma, are mentioned as being situated in the province of Vyapúr. The site of this, I am unable to fix. I may,

* See Asiatic Researches, Vol. VIII. and preface to Wilson's Sanscrit Dictionary, page vi.

† See Appendix to the Bengal Asiatic Society's Journal for December, 1835.

however, offer a conjecture on the subject. Nagpúr, means a town of serpents, and is very frequently known to the learned among us by the synonymous epithet of Vyálapur. It is not improbable that the ancient name of the place was Vyápur, and that some influential individual or chief changed it into the more significant appellation of Vyálapur. The successors of Nara Varma appear to have reigned in Mandap and Nilagiri, which affords a proof in favour of Col. Tod's long list of the Pramára capitals.

11. The language of the Inscription, is, as above remarked, extremely pompous and figurative, quite characteristic of the age in which it was written; though considered very elegant according to the modern perverted notions of our writers, who, like the author of this eulogy, do not even scruple to exalt their heroes above the gods, by employing childish plays on words and other similar artifices. There is scarcely a single couplet in which we have not one or two words employed in a double meaning. Its hyperboles, metaphors, and mythological allusions, are so far-fetched and unnatural, that, notwithstanding all my pains, I fear, some of them may yet be found unintelligible to a mere English reader.

12. The character, in which the Inscription is written, is what Mr. Prinsep calls "Kutíla" or crooked, a name given to it in one of the grants of the middle ages discovered by him. A line or two at the bottom appear somewhat different from the rest, the form of the letters being evidently ornamental. The character, on the whole, is nearly the same as that of the Khárepátan grant, and I need not therefore, describe it any further.

Translation of an Inscription found on a stone at Nagpore.

[The transcript begins with a part of a sentence, from which circumstance and from the absence of the usual invocation, it appears that the first line of the Inscription has not been copied or had been effaced]. O Goddess! may we be blessed with openness, generosity, sweetness, deep meditation, and equanimity, which attributes belong to you; and [O Sarasvatti, (the goddess of speech) do thou also inspire me with thy attributes, simplicity, elegance, unity, and harmony.¹] May the lord of Lakshimi, who is without a second in the three worlds, be propitious to

1 Wherever a simile or contrast is expressed by a play upon words, I have distinguished their secondary sense by using brackets of this kind. []

you (mankind). The sun and other luminaries shine forth, having an asylum in his imperishable heaven. May good poetry, which abounds in Jāti and other kinds of metre, as well as in the figures of speech, pathetic sentiments, and other ornaments, be propitious to us; [resembling virtuous and learned men descended from a good race, possessed of noble accomplishments, and capable of feeling poetical charms. May Shiva, who is formidable to the towers of his insupportable enemy;² who adorns himself with ashes, and to whom Kubera does homage, grant you happiness, like the Agni race [which is terrible to its foes, is adorned with prosperity, and honoured by the kings of kings]. Glory to the lotus-seated Brahma, who, like pearls, is produced in the hollow of this oyster-like mundane egg, and is honoured by Mahesha [as pearls are by rich men]. May we be blessed with enjoyment and beatitude by the awful and noble figures of the lords of Umá and Ráma, one of whom delights in an utter absence of worldly desire, a wreath of human skulls, skins of tigers and elephants,³ and a sprinkling of ashes; while the other indulges himself in passion, and takes pleasure in garlands of flowers, apparel, necklaces, and fragrant ointments. May Vishnu be propitious, who, like a universal car, has created this universe without being different from it, to maintain the Karma Mīmāṃsa Philosophy? There is a noble mountain, named Abu, which mocks the pride of the lord of the mountains (the Meru) by its lofty summits, and resembles the blue firmament by its brows composed of sapphire. The circle of the lotuses, waving in lakes on its sky-reaching-peaks, may be compared to a fragment of another mundane egg. Brahma, being desirous of ascertaining whether the abode of the gods or that of men was purer,³ suspended to the two extremities of this mountain, which, methinks, resembles a true balance, the heaven inhabited by gods, and the earth peopled by human beings; when the former went up in consequence of the pillar-like celestial mountain, and hence was proved to be endowed with greater purity. This Abu aspires to the beauty of the universal car, which has the earth and the heavens for its two wheels, connected by an axis, reaching, on the one hand, the expanse of water, and, on the other, the confines of space, and appears bending in this rugged career of life, by being impeded

2 Tripurásura.

3. This alludes to the ancient Hindu custom of testing the character of a man by weighing him. Being lighter was always regarded as a proof of honesty or innocence.

in the regions of the stars. On this hill, whose green and pleasant brows were overflowed with the waters of the celestial streams, resided the Muni Vasishtha, the chief of those versed in the Vedas; who, obedient to his father (Brahma), carried to the upper portion of the mundane egg the river Yamuna, in the form of smoke proceeding from the sacred triad of fires, in order to effect a junction with the (celestial) Ganga. His precepts, like guides, extricate the car-like triad of the worlds, when, pursuing a wrong direction, it sinks into the quicksand of temporal affairs, bordering on the great stream of knowledge. Once on a time when Kanishka (Vishwamitra) paid a visit to the forest, and was endeavouring to carry away the cow Nandini, who had delighted him by producing every thing necessary for his entertainment, the enraged Muni Vasishtha propitiated the fire by his offerings, and from it came forth Paramára, the true conqueror and slayer of foes. His family became an image of those of the sun and moon; that, assuming humility and delighting in huge armour, faithful banners, and great renown; [these glorying in having given birth to Rághava, Vishala-Varma, Satya Ketu, and Prithu.] That is invincible to the race of the immortal gods, is produced from fire, and fond of (polite) assemblies; [these gave birth to the kings, Aja, Ráma, Nalla, and Bharata.] In this race flourished the king Vairi Sinha, on whose royal birth, prosperity, prowess, imperial dignity, generosity, and courage, shed a lustre; while the space before his throne was strewed with gems and rubies, dropped from the crowned heads of kings, who constantly attended his court to do him homage. While he was marching to conquer the remotest quarters of the globe, the regions of space, filled with umbrellas of peacock's feathers shining like emeralds, appeared as if choked up with the poisonous respirations proceeding from the exhausted Shesha,⁴ trembling under the load of the earth, which was oppressed, under the feet of the marching train of his lusty elephants. His fiery and immortal spirit still survives in the subterranean regions in the person of the Vádava fire; on the earth, in that of the golden mountain; in the heavens, in that of the starry firmament; and in the horizon, in that of the gold-coloured arch. He ruled the earth, shaming Indra in heaven by his prosperity; defeating the army of his foes in hostile lands by his prowess; and surpassing, by his support of the earth, the lord of the serpents in the regions inhabited by those beings. From

4 The great serpent that supports the earth.

him was born king Bhīma, who gave a new face to the earth; whose wrath was cooled by tears flowing from the eyes of the widowed families of his enemies; and the flame of whose valour is still visible in the starry firmament, sending down its smoke in the shape of the blue sky. The clusters of pearls, projected upwards from the foreheads of the elephants slain by him, though falling down in the shape of stars, have not yet reached the earth. Here is a great marvel; to whom shall we relate it? Who will believe it? This king, though he supported the earth, earned extraordinary Lukshimi (wealth), and assisted the pure-minded, did not resemble Vaikunth (Vishnu) [as he was always irresistible.] His son Shri-Rāja Rāja (or Bhoja Rāja), acted as the Pinak-armed god (Mahādeva) to the towers of his enemies; and his fiery spirit, with a desire of protecting this globe, has overspread it in the form of the mountain Lokāloka⁵. Even in his pleasant excursions, his armies covered the earth; the dust, raised by his cavalry, obscured the horizon; and the noise of the chains rattling on the march of his elephants, filled the concavity of the basin of the universe. His foes, when they were transformed into gods on being slain by his sword, and saw their headless trunks surrounded by armed men, became impatient to descend from their celestial chariots to combat new heroes, but the heavenly virgins encircled round their necks and held them back from returning to the earth. His younger son, the renowned Shri Bhidra Rāja, was endowed with a fiery spirit, akin to the blazing Vādava, and slew his enemies, brandishing his sword like a stream, tossed about by a strong gale of wind. The dust raised by the march of his cavalry, assumed the appearance of smoke, which, methinks, may be compared to that of the all-devouring fire, as if the same proceeded through excavations made into the earth by his elephants. His foes regarded him as endowed with the profundity of the ocean, as manifested at the annihilation of the world; the might of the world-destroying wind; the stability of the lord of the tortoises, that supports the earth; the spaciousness of the basin of the universe; the brilliancy of the world-consuming fire, and the magnitude of the celestial vault. The throne of his son Shri Bhoja Déva, who, occupying the pinnacle of royal greatness, peculiarly adorned this world, was the only refuge to those, who, having lost their kingdoms through envy, were obliged to do him homage by lower-

⁵ The mountain supposed to mark the confines of the universe, or the space illuminated by the sun's rays.

ing their heads before his lotus-like feet, which were kissed by the lustre of the gems composing their crowns. (The next verse, which describes the train of the elephants of this king, is rather unintelligible). In the recitation of his praises in the assembly of the gods, Vikuntha (Vishnu) envies the four-mouthed Brahma; this god is jealous of the five-mouthed Hará, who cannot bear to see himself surpassed by his six-mouthed son. This commander of the heavenly host again grieves, when he sees the superior eloquence of the chief of serpents, endowed with a thousand mouths. This king having attained the companionship of Indra, the state was involved in dissensions in consequence of being deprived of its sovereign; and at such a period came into the world his son Udayáditya, who subverted the king Kanrá of the Karnátaka, that had harassed the earth; imitating thereby the achievement of the great Boar. Though the groups of his foes, overcome by the dazzling sun of his glory, met a noble death from him on the field of battle, they derived full satisfaction, when they pierced ⁶ the orb of the day-star, mistaking him for their enemy in the heat of their revenge. The lord of the serpents having witnessed his victories on a day of battle, closed his eyes in a transport of joy; by which he was deprived of the gratification of hearing his praises recited, and the hopeless creature severely reproached his huge body, which performs the function of hearing by the organ of sight. Shri Lakashma Déva, the son of that light of the three regions, imitated Prajapati, by devoting himself to the protection of his subjects, and, following in his conduct the ethics of Manu, obtained for himself an imperishable renown. His marching drum, methinks, meant to proclaim, "O lord of the tortoises and others! give ye your combined support to the earth, oppressed under the load of this army. O hostile kings! humiliate yourselves quickly, or you will be ruined. O immortals, whose eyes have no power of twinkling, close ye your eyes, or they will be covered with dust." As soon as he began his march, the kings of the east deserted their brothers and relations to save themselves; those of the south were so terrified that they had no great hopes even of their lives; the princes of the west abandoned all hope as deceitful; while the chiefs of the north, in order to avert death, resolved to forsake enmity. When this prince,

6 This alludes to the belief of the Hindu warriors, that all those who die in the field of battle, penetrate the orb of the sun and pass to the higher regions.

with a view to procure noble elephants, invaded the eastern quarter of the globe, presided over by Indra, fear took refuge in the capital of the king of Gauda, as did Indra in heaven with his celestial companions. Having conquered Tripuri in a campaign, resembling an ordinary excursion of pleasure on some occasion of joy, and having annihilated his enemies, he spent (sometime) on the banks of the Godāvāri; covered with pleasure gardens and hills, the beauty of which was enhanced by gentle breezes blowing over rivulets. In that sacred stream, whose waves were constantly bent upon undermining the hills on its banks, the elephants of the king plunged themselves, as if to expiate the sins committed in battle. These animals being in their rut, demolished the lower sides of the Vindhya mountains, mistaking them for the elephants of the enemy; as torrents rolled down from them in the disguise of trunks, while their lofty summits resembled frontal globes, and clouds covering their heads threw down a sprinkling of rain, in the form of the temporal juice. While the king was crossing these mountains, the hoofs of his fleet horses operated as a hatchet upon the rocks hardened by the action of water; while a horde of innumerable wild elephants, incited by the odour of the temporal juice, oozing from his elephants, sprang up and rambled through the forests. The elephants of Anga and Kalinga retired from the field of battle, when they beheld those of Shri Lakshama Déva, claiming a connection with the guardians of the light cardinal points and the love of their mistresses, and boasting of a companionship with the regents of the clouds. The praise of being the first of Purushas (men,) and the asylum of Shri (the goddess of wealth,) as well as that of having supported the earth, and protected it from the Bala Vairi (7) (the enemies of Indra), is said by the learned men to be peculiarly due to Vishnu; but this is an exaggeration. The billows of the sea, which reach the sky and the clouds at the world's destruction, and are the companions of glooms, covering the universe at that period, yielded in height to the elephants belonging to the vassals of Lakshmidhara, when they plunged themselves into the sea. (The next verse which follows the same idea is very obscure.) Those pearls which dropped from the golden girdles of the ladies of his vassals, while bathing in the sea, bestowed upon the waters of the Tamraparni, their peculiar quality (of

7 This word, used in reference to the king, signifies powerful enemies, and as all the epithets are thus applicable to him, the assertion that the praise is peculiarly due to Vishnu, is represented to be an exaggeration.

producing pearls,) which contributes to the support of the king of the Pandyas. This Lakshmidhara on being informed that he had reached the bridge, constructed with hills and huge rocks by Máruti and the other attendants of Ráma, when about to cross the sea, gave no heed to the statement, and formed a bridge of the elephants composing his retinue, as if to invade some other island in the ocean. No sooner had the shouts of the van of his three-divided army reached the point guarded by Yama (south), than the regent of the west, though holding a snare in his hand, became hopeless in regard to the protection of his post from the impending calamity. While the elephants of the king were quietly drinking up the waters of the ocean, each taking one draught, like Agasti, there is no telling where fire, the fishes, or the Mainak and other hills were. As to Hari, he must have been asleep. None of these knew what was taking place. The Mainak and other hills with large fishes, served as boats to the marching army, consisting of elephants adorned with pearls, which assumed the swinging motion of the Mandara. (8) When this king, being jealous of the Yakshas, marched towards the region guarded by Kubera, the people of that quarter abandoned their dwellings[as well as their riches]. In his gardens, he reared, like Punnaga, Areca and other trees, the plant of fame, which was watered by the sweat dropping from the crowned foreheads of kings, whom his victorious arm, eminently skilled in the use of the sword, had humbled. After having rooted out Turuskha Datá (a Turkish chief) by his victorious arm, he resided on the Vanku, whose banks were covered with saffron. He then caused his favourite parrot to be taught to recite his praises in a mellifluous voice, resembling that of the goddess Sarasvati. On the occasion of a solar eclipse, this victorious king, impressed with pious motives, duly bestowed (upon Brahmans?) two villages in the province of Vyápur, and these were exchanged for another, called Mokhala Pátala, by his brother Nara Varma Deva, with a view to secure eternal good. This king Lakshmidhara, caused this temple to be constructed, with figures commemorating his numerous exploits. In the Vicrama year 1161.

O learned men, be of good cheer, and examine our sweet composition with an acute eye. I bow to that audience, which sheds tears of joy at the charms of poetry.

8 The mountain with which the ocean was churned by the gods.

Fac-simile of the Inscription

दधन मोतारत्ये॥ प्रसादो दायमावुद्येसमाविसमताद
 यः। अथ योर्ध्वगुणः सन्निवायेयोतेपिसन्तुनः॥ एकएव
 नुवनतयेपिसश्रीपतिर्नैवतुवोवन्नतयोय - - - अथपद
 श्रितोथमीभास्करपृवृतयश्चकासति॥ जाविहृतुश्च
 एगलंकेरवारदः। सरसाश्चप्रसीदन्तुसुन्नमः। सुर
 मखनः॥ दुर्द्धरारिपुरतद्वत्तीषाणभूरिभूतिमविश
 ऊराऊकृतसक्तियः क्रियाद्वद्विवंशसदृशः शिवः शिवं
 जानामहात्मागत्यान्नब्रह्माण्डयुक्तिसंपुटामहश
 तामुक्ताऊद्यत्याज्ञाजानयः॥ विराग्यं च सरागतां वन
 शिरामातां च मात्स्यानि च द्याप्राणकपक्षर्षणी च वसान
 चाहीश्च हारादिता। अङ्गुतिं च विलपनं च भजातभी मं
 नथं च तद्विद्याद्रूपमुमारमारमण्यार्तुकिं च मुक्तिं च वः।
 विश्वरथं समः। अमीमाज्ञाकृति एकतेवात। स्वात्तिन्ननिर्धि
 ता। शषविश्वाविष्णुः पुनातु वः॥ अग्निग्रस्तमिरीद्वुर्गर्वग
 रिमानीलाश्मसानूल्लसत्कान्तिव्रातविडम्बितासुरतलः श्री
 मान्नागाष्ट्रावुदः। अस्थाध्यामतालाद्विलम्बिशिखरप्राश
 रपद्माकराप्रवत्पद्मपरागचक्रवितरब्रह्माण्डखण्डा
 त॥।। विरावृतमन्त्रमण्डलमिदं मास्तीश्वभूमण्डलं कृ

त्वावर्म्म तुलायमानवपुषाऽस्यान्नत्यर्च्यस्यच । जान्
 व्यावदवेतुभिन्नतिविविः किंशुद्वमित्यतायारूढं तावदगा
 दमत्तीशिखरिस्तस्मान्नात्ताम ७७ ॥ लानवित्तिद्युत्तल
 विप्रविभूमिचक्रमाकाशचक्रमपि अत्यनदिगन्तानि । सं
 सारवर्त्मनि महाविषमनिषन्नताग्नाच्चैतिकतदविश्वन
 धानृत्तनृमीः ॥ तस्मिन्वदविदावरः सत्तगवानाकाशग
 द्वापयः प्ररप्लावितकान्नाकामलतादतिष्ठद्वसिष्ठाभुनिः ।
 यास्तवानलवूमवर्त्तिममुना प्रीत्येपितुवताणागद्गास
 द्रमसिद्वायसमनयब्रह्मा ७७ ७७ प्रति ॥ विद्यामहास
 रिदुपात्तविवर्त्तिप्यारसं सारासेकतविषनूमसक्त ॥ मा
 तायद्यन्तिलकरप्रमुत्यपसंप्रवृत्तमुत्तारयन्तिशतशाथुष्क
 दशनुयाः ॥ आयातस्य कटावनद्विति पातरञ्चिद्वतः कोशि
 रुस्यातिआवितवम्बुजात्वंजननादानदिनौनदिनी । निर्जुता
 कुपितनतनहविषासंहर्षिताहर्हिषावीरः शरीपरमार
 नृत्यनुपमः सत्यातिमानातवत् ॥ रायचर्चनविशालवम्भ
 नृत्सत्याकतुपृसकीर्तिपाधिवः । वर्द्धातयमहिमांशुचन्द्र
 मः सततिप्रतिकृतिर्दन्वयः ॥ वराजराजराजिताना
 लाद्ववः सत्तारतः । ग्राहन्नुचद्वायारिवद्यजायनायम
 चयः ॥ ७७ ७७ ॥ वंशस्मिच्चैरिसिंहः न्स्तिपतिरतवद्

रायाऊभा। जानऊत्ता। अत्याश्चर्यमदृष्टमश्रुतमिदं कास्मिं समा
 तस्माद्। का। चतत्पतिपदानचतदपि प्रमूखान् कोतुकात्सनुदु
 त्वापि वसुं वरामसदंशीलं पिल्लुं नीचयः कुर्वन् कार्यमान
 कशः सुमंभसाभागांश्चोवेकुतां॥ २८८ तस्माद्विरपुषि
 नीवदविवप्रारवत्तुं दधरप्रवंसेकपिनाकपाणिरजनिश्चा
 -ऊरा। जानूपक्षपाजः प्रावृतवात्पिपालयिपया अत्यप्र
 तापा जालालीकात्ताकमहामहीब्रवत्यद्या जाबमहीम ७
 तं॥ अस्मिन्सर्प्य विलील आपिललितेः सेन्ये समुक्तां चि
 त्वाहं ह विसारि ब्रलिपटल द्यानु पृदिस्म ७ तुलेः। अमश।
 चकरी ७ लदयपटा प्राइवात्ताना चइवला प्रइवच्छइव लभरनि
 प्ररचत ब्रह्मा ७ माष्टादरेः॥ अग्निस्त्वं शनिरत्नमस्तकत
 अलक्ष्म्यं घाडर्त्तं तव च त्वत्त्वक यन्व नुदतं माकदृष्टाना
 दे॥ वष्टितं। संहषांत्यतात्ताविमानशिवरादाग्निश्रुका ७ हन
 दीरानसररागिणानुपुविरसच्छसिदाङ्गनाः॥ २८९॥ त
 स्मासीदधपार्विवः पृथुयशः ग्रीतिद्रा। जानुजः न्फूर्तु
 हाडवपावकस्फुट - हः। सादयारोमानलः। अः संग्राम
 यु ७ माकवन्धित ७ जानुवर्वातदूरात्सत्ताज्ञानाधितम ७ ल्य
 ग्रप - ल - मद्रुअङ्गनतः॥ २९०॥ अतिजयिनि यत्तामितजाव
 नजाऊतरलतुरैगा वागाङ्गूततूर ७ राजिः। विकंटकरदि

तारत्तपृच्छृष्टुरन्नुदितस्वरायत्तादत्तकालाग्निबूमः॥
 गाक्षीयप्लथार्णवस्यचवलंकल्पान्नवातश्च।सुगानंकमाठ
 शितु---रता---भाउस्यचातकः।कालहुताशनस्य
 चमहीयस्येद्याचक्रस्यचस्वीकृत्यवविनिर्मितयमवि
 दुःप्रत्याजिपृथीतुऊः॥३३॥तत्सुनुतुवानेकतूषणमत्त
 ऊपालचूडामणि॥च्छायाडखरतश्चितांदि।कमलः।शी
 ञ्जाडाटावाळप-यस्याथपमम-यन्निचरणोरात्रा
 सनादासिनः।सार्द्धवच्चविनम्रनिर्हुरनटात्काटीराकाटि
 त्विषः॥रटंत्पटपाटवप्रकटप्रजरस्फूर्तिस्फुर-मः
 उम्भारादुमरडि।आमाडामरा।स्फुटत्कपटनुम्भूरप्र
 पदसंपनत्संयमभ्रमद्भुवन-तल-गरय-मनुच्चा
 कः॥वेनु७ः।कमलासनायचतुरास्यायस्वयंतुः।पुनःप
 च्चास्यायहरामशमुरपिषद्वक्तायपुतायच।।सनानीरपि
 दन्दशूकपतायजसंसहस्यमनायायापिस्पृहयत्यम
 त्थसमिवाय-र्त्तिनुक्तीर्त्तयम्॥३४॥तस्मिन्चासव
 चउतानुपगतिराद्यचनुत्वाकुलमण्णस्योमिनिनितस्यव
 शुबुदयादित्यातवद्भूपतिः।।द्यानादृत्यमहाल्लातापग
 गिलत्कल्लाटकर्त्तप्रभूमवीपालकदर्वितांमुवमिमंश्री
 महाराज्यजितं॥३५॥स्मादुग्रतरप्रताप-मणिदूटदु

ईशितासादरपत्न्यविभ्रमादभिमुखः प्रापद्वायेः पञ्चता ।
 मान्यासायमिविप्रतीतिचिततामर्षप्रकार्ण (तजित्वाता
 स्मरमल्लैरिपुत्तमः प्रापुः परां निवृत्तिं ॥ एकस्यां तजिते
 विला कृविज्जंज ॥ स्यापरस्यां तुव --- वक्रतांसम
 र्घयति दृग्मिह सतसह आकिंवा नदनिमीलित कृण
 तया श्रोतेः सुस्वैर्वच्चित्तमजः कर्ममकर्ममयहिपतिः
 सीजं वपुश्चिश्चति ॥ १०६ ॥ पुत्रस्तस्य जगत्त्वयि कतराणः
 सद्यध्वजापालनवापारभावहाः प्रजापतिरिप लक्ष्म
 दावात्तवत् । नीत्या अनमनुस्तथनुविदावनासो नोवेव
 स्वतः सधत्तापिसदाग्रवर्द्धतय वकीर्तिनां ववस्वतः ॥
 सत्तुयव्रियतां गुरूर्ध्वलत्तराद्गः कूर्मराजादयः साया
 नप्यत नीदुतं नमर्तताप्रत्यार्घिपृथीभुजः । वक्ष्मनु
 पितीयतागनिमिषाः पांसुः पुरा पूरमात्यवंथाहरतिप्र
 याणपदाहायस्यस्वनबुधाना ॥ यस्मिन्स --- गन्धावापि
 बुलेः पूर्वः परित्यक्ष्यत्तकः प्राणस्य कवापिका नरतया
 नाप नृपासदन्दिणेः । प्राशकल्लिरसत्फालतिविकाल
 निर्भीयातपश्चिमेर्मर्तुं कवलमुत्तरेन पतिताईसध
 त्यायास्यात ॥ प्रयातियस्मिन्प्रधमं दिशं हारिहिर्षया
 नन्यसमानदन्तिनं ॥ यर्घा विशाङ्कोऽपातः प्ररदरसूः

राशाद्वसहसापुरंदरः॥ बुत्साहाचनिसनिमित्तकनिताऊस
 प्रयाण-मणाक्रम्यदिपुरीराणेकरतिकाचिद्वस्यविद्वपिमः
 ॥ यनावास्यतविचानिर्सरमपुत्संचारचानूत्ससत्त्वात्माधानलता
 विमानवसातारदापकत्व-ल॥ ज्ञातामऊन्यग्रयमार्कुना
 निवीजानियत्कुञ्जरमकुनानितटाचालाच्चाटनतपराया
 रिगप्रवाहमिपरंपरायाः॥ अद्यान्मालकनालनिर्सरकराः
 कुम्भायमानान्नमदूतान्ताः करकक्षितागविगलप्रयाय
 मानामूतः॥ प्रायात्तपिविसविसिन्दुरवियायद्वाहिनीवारणे
 तुन्मीलनादामदुरेर्चित्तिरिरविन्यस्यपादचलाः॥ स्फार
 तल्लारवारसुगितगुरुतटीकूटकुशकटङ्कशामप्रश्वत्तुग
 गृत्वरितहरिटगूदकचक्रम्यगणाः॥ यनालक्ष्यन्नासना
 करिकरटतादाहमटानागुठाचद्याविद्वागय्यचन्यद्विपकल
 पटलद्यामलाविन्वापादाः॥ अदिक्खिनुरवन्दवः क्यमः
 ल्लात्तादिगवात्तवः कीडाक्राउकुदुमूकानिङ्गलगुक्काव्रम
 चर्याहुषः॥ यत्मानानृपगन्धसिपुरमनुन्मितीविहस्तीकृ
 तैस्तेरथङ्ककलिङ्गकुञ्जरकुलियुद्वायवाद्वाङ्गलिः॥ इ
 यास्तापुरुषात्तमः सत्तगवानाशिश्चिअयः श्रियाय्य
 निदंवलिविरितः दिउनादिशुंसमाश्वासितं॥ यनाकरिव
 सुन्दारतिटवतः सानन्दमृदाकृतायस्यप्राद्यपायानिमे

बुचऊनेधीऊस्तुतिः प्रसुता॥।य कल्यानलवूगमणुलतित्ता
 ठकार—नीयिदिषः संवर्ती लसितान्वकारसुहृदस्तय
 द्वियद्वांचाः वित्ता — — — लादपश्चयनुदपा ७ वगा ह्वा
 धविर्द्यत्सामन्नमत्तद्वाऊरवरितास्तप्यञ्जा वनूर्म्मयः ॥
 कुम्भस म्मवासा दार्ढ्यतापावीमुपाश्रमि ॥ सी लापे ची व
 कि स्तयविच्चारान्ववादाव ॥ लीळा म्मः प्रवानयरीयपृतन
 सामन्नरुसीगन्निनीश्राणि — — — — — एरसनीमु
 क्ताः पतन्निस्मयाः ताचिः संप्रतिप प्रायनुपृधिर्वीयत्ता
 वपलीपयः पश्चाद्यापितादवपाच्यन्पास — वातवजाय
 तस्वाभिर्द्धिप्रसासत्तरनवातासमस्यामा मरुति प्रा।
 यापाहतरीलवृद्धरविताददिपूति — — य — — —
 दत्यकुत्तहलमकधितंतेऊरवजाययः सनाहास्ति
 कासतुवेवविदावद्दीपाक्षारापक्रमं ॥ वपावत्तकृपसञ्ज
 वायमाशंमस्यजिघसर्षतिस् — — ह्वा ॥ वत्तत्वकीयांक
 कृत्तञ्जपाञ्जाद्वापाजितुं पसत्तद्वदयपराः ॥ — गनाल
 प्रमुत्तावसन्निकुहयित्कालादि रास्त कचित्सन्निचापि
 तिभिर्गिलप्रतृतयः कुत्सपिशातहरिः। पतद्विक्तिनाका
 पियत्तऊलवेतस्याप्रषोपयः पीत्याञ्जकृतिः कृतिक
 स्तेत्तेरुवत्यायितं ॥ यिः सैतूयतिभिर्दिलप्रतृतितिः

संसर्पिणस्तन्वातापातावनसवन्नुतांशिस्वरिणाभिना
 कमुस्याअपि। ताम्यन्मन्दरडम्भराणिदिवारतिरथाप
 षष्ठुविस्मात्सनागडराज-।-रकराष्ट- - -।ना
 -इवलेः॥ प्रक्षतितिक्कारिवराहुराजमन्यत्वंदाशंप्र
 तियस्ययानुः। द्विकपितीत्यक्षितवित्तपाशिचूत्पेःप्र
 तीपेर्वित्तपेर्वित्तव॥ आरामाःसयरायरावपितदपु
 न्नागपूगादिमद्गुल्मान्तर्वनादवतायिवजयश्रीमद्य
 शःपादपाः। अस्यासन्नऊदण्डचण्डमलसाल्वालासिल
 म्हीकृताकृणीपालऊरुपालगणुलगलकीलालकु
 ल्याकुलाः॥ एवालातवाततुरुफुदत्तविलसद्वाहाव
 लीवल्लेनेकाभ्यक्तुकुमाकसराविकम्बुदोवंकूप
 कण्ठाल। यनावास्यसरस्वतीसविंतासाविन्हावान्वा
 रवश्चादूनुत्कदम्बदिपकुरमतःकीराविपाद्याद्यत्
 ॥। तनद्यापुरमण्डलेसुकृतिनायस्मेग्रहसूत्रग्रह
 यद्भूमद्वयमग्न्यायणविविनाविश्राणितंश्रद्धयात
 द्रात्यनरवर्मादवचपतिःपथ्यपरीवर्त्ततद्गामंमा
 खलपाटकास्थमंदिशादशितयास्थचुया॥ ॐ॥। त
 नख्यं कृतानकप्रशस्तिस्तुतिचितितं। श्रीमल्लन्मी
 वारणेतद्वागारमकार्यत॥ सं११६१॥

ॐ ह्रीं हावुमः सावुसमुत्सहचैकुशाग्रकृत्योचवि
 र्जं विवचोभयसूतावैचसमाश्रमवंसुखेचनःस्त
 क्रिसुतगुपावै ॥ वदनीयावुत्तोस्तमिआतोरो
 तोविपथितोआवधुमुचतः साद्रमानन्दातस्य
 निर्वरो ॥ ॥ ६४३

Transcript of the Inscription in Balbodh.

दधनभोत्तारत्यै ॥ प्रसादौदार्यमाधुर्यसमाधिसमतादयः ॥ युवयोर्ये
 गुणाः संतिवाग्देव्यौतेपिसंतुनः ॥ एकएवभुवनत्रयेपिसश्रीपतिर्भवतुवोवि
 भूतये । य(स्यचा)व्ययपदश्रितोप्यमीभास्करप्रभृतयश्चकासति ॥ जाति
 वृत्त (सै)श्च(सहितागु) णालंकारवारदः(वारिदाः) । सरसाश्चप्रसीदंतुसू
 क्तयः सूर्यश्चनः ॥ दुर्धरारिपुरभद्रभीषणोभूरिभूतिम(स) विशे (षभूषणः
 (रा) जराजकृतसक्तियः क्रियाद्वन्निवशसदृशःशिवःशिवं ॥ जातामहा
 ण्वोत्वन्नेत्रह्योदेनुक्तिसंमुटे । महेश (संम) तामुक्ताजयंत्यंभोजयोनयः ॥
 वैराग्यंचसरागतांचनृशिरोमालांचमान्यानिचव्याघानेकपचर्मणीचवसमे
 चाहींश्चहारादिंच । यदमूर्तिचविलेपनंचभजतेभीमंचभव्यंचतद्विद्याहूपमु
 मारमारमणयोर्भुक्तिंचमूर्तिचवः ॥ वैश्वरथ्यासमः (क) म्म (र्म) मीमाज्ञानृ
 (मांसाभृ)तिकैतवात् । स्वाभिन्ननिर्मिताशेषविश्वोविष्णुःपुनातुवः॥अभिः(म)
 प्रस्तगिरीन्द्रगर्वगरिमानीलाञ्छमसानूलसत्कान्तिप्रातविडम्बिताम्बरतलः
 श्रीमान्नेत्रोद्भुदः । यस्यव्योमतलोदिलङ्घिशिखरप्राग्भारपदमाकरप्रे
 ङ्खत्पदमपरागचक्रळि (मि) तरब्रह्माण्डखण्डायते ॥ देवैरावृतमभ्रमण्डल
 मिदम्मर्त्यैश्चभूमण्डलंकृत्वाव (ध) र्मृतुलायमानवपुषोयस्यान्तयोन्यस्यच ॥
 जानेयावदवैतुमिच्छतिविधिः किंशुद्धमित्येतयोर्लुब्धतावदगादमर्त्यंशिखरि
 स्तस्मान्भोमण्डलं ॥ लेभेभिभिर्दजलविप्रधिभूमिचक्रमाकाशचक्रमपियेन
 दिगन्तनेभि । संसारवर्त्मनिमह्यविषमेनिषन्न (ण्ण) भ्राष्ट्रास्तैकतटविश्वरथांत
 (ग) लक्ष्मीः ॥ तस्मिन्वेदविदांवरः सभगवानाकाशगङ्गापयःपूरप्लावित
 कान्तकोमलतटेतिष्ठद्वसिष्ठोबुधिः । यस्तेवा (स्त्रेता) नलधूमवर्तियमुनांप्रीत्यै
 पितुः (सु) व्रतोगङ्गासङ्गमसिद्धयेसमनयद्ब्रह्माण्डखण्डंप्रति ॥ विद्याम
 हासरिदुपान्तविवर्त्तिघोरसंसारसैकतविषण्ण (ण्ण) मशक्तमेते । यस्यत्रिलो
 करयमुत्पथसंप्रवृत्तमुत्तारयंतिशतशोप्युपदेशतायाः आयातस्यकदाचनक्षि
 तिपतेराछिन्दतः कौशिकस्यातिथ्योचितवस्तुजातजननादानन्दिनीं
 न्दिनी । निज्जेताकुपितेनतेनहविषासंहषिताद्बहिषोवीरःश्रीपरमारद्वय

नुपमः सत्याभिधानोभवत् ॥ राघवादृतविशालवर्मभृत्सत्यकेतुपृथुकीर्तिपा
 र्थिवः । वर्धतेयमहिमांशुचन्द्रमः संततिप्रतिकृतिर्यदन्वयः ॥ बराजरा
 मराजितोनलोदभूवःसभारतः । ग्रहेन्द्रचन्तूयोरिवव्यजायतायमन्वयः
 ॥ ठ ॥ वंशेस्मिन्नैरिसिंहः क्षितिपतिरभवद्भरिभूतिप्रभावसाम्राज्यौदार्य
 शौर्यप्रचयपरिचयप्राज्यसौराज्यसिद्धिः । नम्प्रश्मापालभालस्थलदलितलुल
 क्तातकोटीरकोटिबुद्ध्याणिक्यचक्रस्थपुटितमणितत्पादपीठोपकंठः । स
 र्वज्ञाविजयप्रयाणसमयेयस्येन्द्रनीलप्रभैर्मायूरातपवारणैः शुशुभिरेनष्टाव
 काशादिशः । सर्पन्मत्तकरीन्द्रचक्रचरणप्रभारदीर्णस्थिरारम्भोद्भूतवि
 पन्नशेषसविषासावरुद्धाश्च ॥ पातालेबडवामुखानलमिषात्पृथ्वीतलेचस्फुर
 सौवर्णाचलकैतवाहियतिचब्रह्माण्डखण्डच्छलात् । चञ्चत्काञ्चनचक्रवा
 लललयव्याजाश्चदिङ्मण्डलेयस्याद्यापिसमुलसत्यविचलीभूतः प्रतापानलः ॥
 सत्त्वैकेषुचविद्विषक्षितिषुचव्यालेन्द्रगेहेषुचस्ताराञ्चरिपुप्रजंचपुरजिआ
 गाधिराजंचयः । ऐश्वर्येणचविक्रमेणचधराभारक्षमत्वेनचन्यकुर्वंश्चपराभ
 वंश्चसमतिक्रामंश्चपृथ्वीमधात् ॥ × ॥ तस्माद्वैरिर्नृपावमेदनवधूवैधव्यदुः
 खोद्भवद्वाप्याम्भः कणशांतकोपदहनः श्रीभीमकोभून्नृपः । आविर्भावि
 तनूतनस्थितिरयंब्रह्माण्डखण्डच्छलाद्यस्याद्यापिविलोक्यतेविषदधोधूमः प्र
 तापानलः ॥ अनुगगनमुदस्थः (स्ताः) स्थूलमुक्तोच्छ्रायेयदसिदलितनुष्टा (दू
 त्या) कुम्भिकुम्भस्थलेभ्यः ॥ सततमपिपतन्तस्तेद्यावन्नपृथ्वीपृथुलतरलता
 राव्याजभाजोभजन्ते ॥ अस्याश्वर्यमदृष्टमश्रुतमिदं कस्मिन्समाचक्ष्महेकोन्वेत
 त्र्यतिपद्यतेचतदपिप्रस्तूयतेकौतुकात् । उद्धृष्टापिबसुंधरामसदृशीलब्ध्वापि
 लक्ष्मीचयः कुर्वन्कार्यमनेकशः सुमनसामागात्रवैकुण्ठतां ॥ × ॥ तस्माद्वैरि
 रवस्थिनीवदधिप्रारब्धलुप्यत्पुरप्रध्वंससैकपिनाक्रपाणिरजनिश्रीरा (भो)
 जराजोनृपः । प्रायःप्रावृतवान्पिपालयिषयायस्यप्रातापानलोलोकालोक
 महामहीप्रबलयव्याजान्महीमण्डलं ॥ यस्मिन्सर्पतिलीलयापिललितैः सैन्यैः
 समुदभामितंवाहव्यूहविसारिधूलिपटलव्यालुप्रदिङ्मण्डलैः । अत्युदभान्तक
 रीन्द्रवृन्दपघटाप्रेङ्खालनोच्छृङ्खलप्रेङ्खलच्छृङ्खलनादनिर्भरभृतब्रह्माण्डभा

धेनासौनवैवस्वतः सत्त्वनापिसदाप्यवर्द्धतबसाकीर्तिर्नवैवस्वतः ॥ सभूयधिय
 तांगुरोर्बलभ्रादभोः कूर्मराजादयः ॥ सशोनव्यतविद्रुतंनमत्तरेप्रत्यर्थिपृथ्वीभु
 जः । चक्षुर्मधुपिभीयतामनिमिषः पांसुःपुरापुरवत्येवंव्याहरतिप्रयाणपट
 होयस्वस्वनच्छदममा ॥ यस्मिन्सर्पतिबान्धवोपिविधुरैः पूर्वैः पवित्रजतेकः
 (का) प्राणस्वकषापिकातरसयानापेक्षसे(ते) दक्षिणैः । आशानलिरस्तक
 लेतिविकलैर्मन्थीबन्नेपभिसैर्तुकेवलमुसरीर्नृपविभिर्देवाप्यव्याध्यास्वते ॥ प्र
 यातिवस्मिन्प्रमदियहरेर्किरीषयानन्यसमाकदन्तिना ॥ ययानिशश्रीदयतेः
 पुरंदरस्तथासुरैः स्वः सहस्रपुरंदरः ॥ उत्साहोभक्षितमिमिसंक्षेपिताजस्र
 प्रयाणमेणाकम्पनिपुरीरयैकस्वतिकाभिवस्यविदेभिरक्षः ॥ मायेवावाक्यतवि
 श्वनिर्झरमहत्संचारचारुलसखील्येष्टानलताविक्षममसंतौगौदौप्यमण्डकि
 ल ॥ जाताभिगम्यभवचक्रार्जवादिषीगान्निप्रकुंक्षस्वज्जवाजि ॥ तत्प्रचल
 बाटनतत्त्वहायसर्गमवालोमिपरां परायाः ॥ वेष्टास्तेस्वकस्वनिर्झरकरः
 कुंभायमानेभयस्कृतांतः ॥ कवकांतभक्तमिमिलहान्मण्डलानांनुदातः ॥ प्राम
 स्तेपिविरोधिसिन्धुरपियासदाहिनीवरणैस्त्रीलममममेकुदैर्निविदिरेक्ष्यस्य
 पादाचलाः ॥ स्फारत्कलरसरित्यंगितमुरुतटीकूटकुट्टाकलकमायमे
 सत्सुरायवरिसहस्त्रिभूचक्रकम्पमाणाः ॥ येनल्लंघ्यतसेनाकरिकरटसरो
 दामदानांनुगन्धव्यविहाराप्ययन्निप्रकुंक्षमेष्टल्लङ्काकुक्षितिल्लसदाः ॥ ये
 दिक्त्तिधुरबंधनःस्यमदल्लोलादिमिमामृत्कीकात्रेडपुत्रुन्मसमिजलमु
 क्सत्रलक्ष्यसुबः ॥ यस्तेनाभूमवंधसिभुस्वनेनैर्निमिलस्त्रिकृतैर्तैरभ्यंगक
 लिमकुंक्षकुलैर्मुष्टिबन्धनैर्भक्तिः ॥ देवस्तेभ्यो(गोतौ) पुरुषेभ्यो सभगवा
 नाक्षिभियेयः निभयनेन ॥ लिखेति ॥ समकनद्विर्लक्ष्यभासिकुं ॥ मेनाधारि
 वसुंधरेतिदय (र) तः सानंदमंदमृदापस्यप्राप्यमयेभिमिभुजमनैर्न्याजस्तु
 तिः प्रस्तुता । येकभ्यानलकूममंडललिखतमृद्विनीविदिषासंतोस्तसिता
 न्धकारमुत्तदस्तुद्विदयद्विधाः ॥ निभानल्लकुलंदेयप्रभनुदेयायोवगा
 होदतैर्यत्सामन्तमसंगैरधरितस्तोमभ्युत्थैर्मयः ॥ कुंक्षममसोदयैयना
 पाधिमुपभिते । शिलापीनीचनेस्तैर्योर्निभ्यंभंधववाहवे ॥ लीलाभः प्रवणे

यदीयपृतनासामंतसीमंतिनीश्रोणिश्रेणिगलत्सुवर्णरसनामुक्ता : पतंतिस्म
याः । तामिः संप्रतिपप्रथेनुपृथिवीयत्तासपणीपयः पश्याद्यापितदेवपाण्ड
यनृपतेर्जीवातवेजायते ॥ स्वामिभेषससेतुरत्रभवतोरामस्ययोमादृतिप्रायोपा
हृतशैलगव्हरक्षितोप्यब्धिप्लुतेरिच्छया ॥ येनागसकुतूहलेनकथितंतजौर
वशाययः सेनाहास्ति कसेतुनैवविदधेद्वीपांतरोपक्रमम् ॥ त्रिधाविमक्तेनवया
यमाशायस्याधिमसर्पतिसैन्यशब्दे । अभूत्स्वकीयांकुमुंभ्यपायाद्रोपायितुं
पाशभृदप्यपाशः ॥ मेषाकप्रमुखाकसंतिकसिचिक्कात्मभिरास्तेक्वचित्सन्ति
क्वापितिमिगिलप्रभृतयः कुत्रापिशेतेहरिः । यत्तद्वेत्तिनकोपियत्रजलधौत
स्वाप्यशब्दपयः पीत्वापत्करिभिः कृतैकचुलुमैस्तैस्तैरगस्यायितम् ॥ यैस्तं
भूयतिमिगिलप्रभृतिभिः संसर्पिणस्तन्वतेपोताधानसबन्धुतांशिरिणोमैना
कमुल्याअपि । धाम्यन्मन्दरडम्बराणिदधिरैतैरप्यशेषेनुधौयत्सेनागजराज
सारकरभैरुकावितानीज्वलैः ॥ यक्षातितिक्षोरिवराजराजमन्यातदाशां
प्रतियस्ययातुः । द्विधापिभीषुक्षितविसपाशैर्भूयैः प्रतीपैर्विभयैर्वभूवे ॥ आरा
माः सधराधराअपितदापुत्रागपुगादिमदगुल्मातर्वनदेवताइवजयश्रीमद्यशः
पादपाः ॥ यस्मासन्भुजदंडचण्डिमलसलोलसिलह्मीभृतः क्षोणीपालजभा
लमंडलगलंकीलालकुल्याकुलाः । खलोत्वातदुरुष्कदत्तविलसद्बाहावली
वेल्लनेक्षाम्यत्कुमुमकेसरभित्तमृदोवक्रूपकण्ठस्थले । येनावास्यसरस्वती
सविधतासांहित्यवाक्पाटवस्वादिनुक्तटपात्रिपंजरगतः कीराधिपोध्याप्यते ॥
तेनव्यापुरमण्डलेसुकृतिनायस्वैप्रहोदसहेयद्रामद्वयमधिपेजविधिनाविआ
णितंश्रद्धया । तदध्यातागरवर्मादेवनृपतिः पश्यन्परीवर्त्यतदग्राममीखलपाट
लाख्यमदिशरेक्षेभ्रमेस्मच्छया ॥ तेनस्वयंकृतानेकप्रशस्तिस्तुतिचिचितं
श्रीमलह्मीपरैणैतदेवागारमकार्यते ॥ सं ११६१

हहोनुधाः साधुसंमत्सहध्वंक्षामकल्याधधिर्यविदध्वं । मध्यस्यभावंच
समाश्रयध्वंसुखंचनःसूक्तिसुधागणध्व ॥ वंदनीयावभौस्तोमेश्रोतारौतौविप-
भितौ ॥ यावभ्रमुंचतः सांद्रमानदालस्यनिर्भरौ ॥

ART. II.—Result of a Comparison of the Observations of nine different Barometers, read every half hour, for 24 successive hours. By GEO. BUIST, L.L. D. in charge of Bombay Observatory.

The present paper was laid before the Society in an enlarged form, at the ordinary monthly meeting in the 9th July. It was originally meant to illustrate a Chart $3\frac{1}{2}$ by $2\frac{1}{2}$ feet in size, on which the Barometric curves deduced from the figure tables now alone given were projected. The portion of this paper specially alluding to these has been omitted as unintelligible without the chart, whose magnitude rendered it inadmissible, and which was not capable of being reduced to such dimensions as to permit of its being included in this journal.

An error in the standard Barometer which was then alluded to, having been detected by means of the combined observations, has now been corrected by the addition of 00.125 to the reading of the instrument. This very nearly corresponds with the interval which exists on the diagram, as well as in the readings noted on the figure tables printed along with it, betwixt the readings of the standard and the mean of all the readings of the other instruments. The standard Barometer is a large one by Newman, (No. 58) the same as all the magnetic observatories are supplied with, with a tube of 590 diameter, requiring a correction of 14.003 for capillarity. The scale is moveable, so that the correction for the rise of the mercury in the cistern is effected by bringing in contact with its surface the point of the tube to which the scale is attached. The barometer marked No. 8, is by Gilbert, and is the same in point of construction as those formerly supplied from the Government stores—the scale being of brass, the frame of wood. The Royal Society have stated, that no exact correction can be given for expansion in instruments of this form, which “no scientific observer would ever willingly use.” * No account has been taken of it in the following remarks. The Barometers from No. 1 to No. 6 are uniform in point of construction. They were manufactured and

* Report of the Committee on Physics and Meteorology, &c. 1840. Though this instrument has been noted in the table, no account has been taken of it in the subsequent speculations.

brought to Bombay in 1843; the experiment under review having been made just after their arrival. No. 7, is by the same maker, and is of the same form nearly: it was brought to India early in 1840, and has since been occasionally employed in the Deccan as a mountain Barometer.

These instruments are all very beautiful in point of workmanship. They are fitted up with a brass frame, in which the attached Thermometer is sunk. The cisterns are of cast iron, with a glass plunger which can be screwed up so as to move the mercury to the top of the tube. The neutral point is marked on a short glass tube, enclosed in a cast iron sheath, ascending from the top of the cistern. The mercury is on each observation screwed up to this, which, at once gives the correction for rise in the cistern and for capillarity. No correction for temperature has been made. The instruments were in this respect subject to nearly the same fluctuations of heat; the entire difference betwixt the attached Thermometers in no case amounting to two degrees Fahrenheit; this is equivalent to a difference in the Barometer of 0.005. If this be added, some of the minor discrepancies will altogether disappear.

The instruments were numbered arbitrarily, for the sake of distinction only, just before commencing observations. The mean of 48 readings of No. 4, is 29.699; that of No. 7, 29.743; the difference between them is 0.044. These are considerably the lowest and highest. Nos. 5 and 6 are perfectly coincident, and Nos. 1, 2, and 3, only differ .004 and .006 from each other respectively. The greatest of these very little exceeds the differences given betwixt some of the mountain Barometers provided for the Antarctic Expedition by the Royal Society's Standard; the least of them are less than the disagreements betwixt the crown glass and flint glass Barometers of Somerset House.

The Sympiesometer which is noted in the table, is not here taken account of. It is a good instrument, by Adie, and has been in my possession since June 1840.

The following tables give the readings uncorrected. The standard is 36 feet above the mean level of the Sea; the other instruments 33 feet; there being no means of placing them exactly beside each other.

Observed Readings of Eight Barometers (half-hourly), from 4. a. m. 20th June to 3½ p. m.

| Bombay Mean Time. | | No. 1. | | No. 2. | | No. 3. | | No. 4. | | No. 5. | | No. 6. | | No. 7. | | No. 8. | | Symptoms. | |
|-------------------|----|--------|-------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-----------|-------|
| A. | M. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | degs. | Symp. |
| 4 | 0 | 29.705 | 82.5 | 29.698 | 81.9 | 29.692 | 81.9 | 29.686 | 81.7 | 29.700 | 81.7 | 29.700 | 81.6 | 29.730 | 81.8 | 29.684 | 81.9 | 29.24 | 28 |
| 4 | 30 | 29.715 | 82.3 | 29.710 | 81.8 | 29.704 | 81.8 | 29.698 | 81.6 | 29.713 | 81.6 | 29.713 | 81.6 | 29.738 | 81.8 | 29.690 | 81.9 | 29.26 | 28 |
| 5 | 0 | 29.716 | 82.1 | 29.710 | 81.6 | 29.704 | 81.6 | 29.698 | 81.5 | 29.720 | 81.5 | 29.720 | 81.5 | 29.745 | 81.7 | 29.695 | 81.8 | 29.28 | 28 |
| 5 | 30 | 29.725 | 82.9 | 29.720 | 81.5 | 29.714 | 81.5 | 29.708 | 81.4 | 29.729 | 81.4 | 29.729 | 81.4 | 29.754 | 81.6 | 29.700 | 81.7 | 29.30 | 28 |
| 6 | 0 | 29.730 | 82.4 | 29.724 | 81.1 | 29.718 | 81.1 | 29.712 | 81.0 | 29.736 | 81.0 | 29.736 | 81.0 | 29.761 | 81.2 | 29.705 | 81.3 | 29.31 | 28 |
| 6 | 30 | 29.741 | 83.3 | 29.735 | 81.9 | 29.729 | 81.9 | 29.723 | 81.8 | 29.747 | 81.8 | 29.747 | 81.8 | 29.772 | 82.0 | 29.710 | 82.1 | 29.32 | 28 |
| 7 | 0 | 29.753 | 82.9 | 29.747 | 81.7 | 29.741 | 81.7 | 29.735 | 81.6 | 29.760 | 81.6 | 29.760 | 81.6 | 29.785 | 81.8 | 29.715 | 81.9 | 29.33 | 28 |
| 7 | 30 | 29.763 | 82.7 | 29.757 | 81.5 | 29.751 | 81.5 | 29.745 | 81.4 | 29.770 | 81.4 | 29.770 | 81.4 | 29.795 | 81.6 | 29.720 | 81.7 | 29.34 | 28 |
| 8 | 0 | 29.768 | 82.7 | 29.762 | 81.4 | 29.756 | 81.4 | 29.750 | 81.3 | 29.775 | 81.3 | 29.775 | 81.3 | 29.800 | 81.5 | 29.725 | 81.6 | 29.35 | 28 |
| 8 | 30 | 29.778 | 83.5 | 29.772 | 81.2 | 29.766 | 81.2 | 29.760 | 81.1 | 29.785 | 81.1 | 29.785 | 81.1 | 29.810 | 81.3 | 29.730 | 81.4 | 29.36 | 28 |
| 9 | 0 | 29.783 | 83.5 | 29.777 | 81.0 | 29.771 | 81.0 | 29.765 | 80.9 | 29.790 | 80.9 | 29.790 | 80.9 | 29.815 | 81.1 | 29.735 | 81.2 | 29.37 | 28 |
| 9 | 30 | 29.793 | 84.3 | 29.787 | 80.8 | 29.781 | 80.8 | 29.775 | 80.7 | 29.795 | 80.7 | 29.795 | 80.7 | 29.820 | 80.9 | 29.740 | 81.0 | 29.38 | 28 |
| 10 | 0 | 29.803 | 85.1 | 29.797 | 80.6 | 29.791 | 80.6 | 29.785 | 80.5 | 29.800 | 80.5 | 29.800 | 80.5 | 29.825 | 80.7 | 29.745 | 80.8 | 29.39 | 28 |
| 10 | 30 | 29.813 | 85.9 | 29.807 | 80.4 | 29.801 | 80.4 | 29.795 | 80.3 | 29.810 | 80.3 | 29.810 | 80.3 | 29.835 | 80.5 | 29.750 | 80.6 | 29.40 | 28 |
| 11 | 0 | 29.823 | 86.7 | 29.817 | 80.2 | 29.811 | 80.2 | 29.805 | 80.1 | 29.820 | 80.1 | 29.820 | 80.1 | 29.845 | 80.3 | 29.755 | 80.4 | 29.41 | 28 |
| 11 | 30 | 29.833 | 87.5 | 29.827 | 80.0 | 29.821 | 80.0 | 29.815 | 79.9 | 29.830 | 79.9 | 29.830 | 79.9 | 29.855 | 80.1 | 29.760 | 80.2 | 29.42 | 28 |
| 12 | 0 | 29.843 | 88.3 | 29.837 | 79.8 | 29.831 | 79.8 | 29.825 | 79.7 | 29.840 | 79.7 | 29.840 | 79.7 | 29.865 | 79.9 | 29.765 | 80.0 | 29.43 | 28 |
| 12 | 30 | 29.853 | 89.1 | 29.847 | 79.6 | 29.841 | 79.6 | 29.835 | 79.5 | 29.850 | 79.5 | 29.850 | 79.5 | 29.875 | 79.7 | 29.770 | 80.1 | 29.44 | 28 |
| 13 | 0 | 29.863 | 89.9 | 29.857 | 79.4 | 29.851 | 79.4 | 29.845 | 79.3 | 29.860 | 79.3 | 29.860 | 79.3 | 29.885 | 79.5 | 29.775 | 80.2 | 29.45 | 28 |
| 13 | 30 | 29.873 | 90.7 | 29.867 | 79.2 | 29.861 | 79.2 | 29.855 | 79.1 | 29.870 | 79.1 | 29.870 | 79.1 | 29.895 | 79.3 | 29.780 | 80.3 | 29.46 | 28 |
| 14 | 0 | 29.883 | 91.5 | 29.877 | 79.0 | 29.871 | 79.0 | 29.865 | 78.9 | 29.880 | 78.9 | 29.880 | 78.9 | 29.905 | 79.1 | 29.785 | 80.4 | 29.47 | 28 |
| 14 | 30 | 29.893 | 92.3 | 29.887 | 78.8 | 29.881 | 78.8 | 29.875 | 78.7 | 29.890 | 78.7 | 29.890 | 78.7 | 29.915 | 78.9 | 29.790 | 80.5 | 29.48 | 28 |
| 15 | 0 | 29.903 | 93.1 | 29.897 | 78.6 | 29.891 | 78.6 | 29.885 | 78.5 | 29.900 | 78.5 | 29.900 | 78.5 | 29.925 | 78.7 | 29.795 | 80.6 | 29.49 | 28 |
| 15 | 30 | 29.913 | 93.9 | 29.907 | 78.4 | 29.901 | 78.4 | 29.895 | 78.3 | 29.910 | 78.3 | 29.910 | 78.3 | 29.935 | 78.5 | 29.800 | 80.7 | 29.50 | 28 |
| 16 | 0 | 29.923 | 94.7 | 29.917 | 78.2 | 29.911 | 78.2 | 29.905 | 78.1 | 29.920 | 78.1 | 29.920 | 78.1 | 29.945 | 78.3 | 29.805 | 80.8 | 29.51 | 28 |
| 16 | 30 | 29.933 | 95.5 | 29.927 | 78.0 | 29.921 | 78.0 | 29.915 | 77.9 | 29.930 | 77.9 | 29.930 | 77.9 | 29.955 | 78.1 | 29.810 | 80.9 | 29.52 | 28 |
| 17 | 0 | 29.943 | 96.3 | 29.937 | 77.8 | 29.931 | 77.8 | 29.925 | 77.7 | 29.940 | 77.7 | 29.940 | 77.7 | 29.965 | 77.9 | 29.815 | 81.0 | 29.53 | 28 |
| 17 | 30 | 29.953 | 97.1 | 29.947 | 77.6 | 29.941 | 77.6 | 29.935 | 77.5 | 29.950 | 77.5 | 29.950 | 77.5 | 29.975 | 77.7 | 29.820 | 81.1 | 29.54 | 28 |
| 18 | 0 | 29.963 | 97.9 | 29.957 | 77.4 | 29.951 | 77.4 | 29.945 | 77.3 | 29.960 | 77.3 | 29.960 | 77.3 | 29.985 | 77.5 | 29.825 | 81.2 | 29.55 | 28 |
| 18 | 30 | 29.973 | 98.7 | 29.967 | 77.2 | 29.961 | 77.2 | 29.955 | 77.1 | 29.970 | 77.1 | 29.970 | 77.1 | 29.995 | 77.3 | 29.830 | 81.3 | 29.56 | 28 |
| 19 | 0 | 29.983 | 99.5 | 29.977 | 77.0 | 29.971 | 77.0 | 29.965 | 76.9 | 29.980 | 76.9 | 29.980 | 76.9 | 30.005 | 77.1 | 29.835 | 81.4 | 29.57 | 28 |
| 19 | 30 | 29.993 | 100.3 | 29.987 | 76.8 | 29.981 | 76.8 | 29.975 | 76.7 | 29.990 | 76.7 | 29.990 | 76.7 | 30.015 | 76.9 | 29.840 | 81.5 | 29.58 | 28 |
| 20 | 0 | 30.003 | 101.1 | 30.000 | 76.6 | 30.000 | 76.6 | 30.000 | 76.5 | 30.000 | 76.5 | 30.000 | 76.5 | 30.025 | 76.7 | 29.845 | 81.6 | 29.59 | 28 |
| 20 | 30 | 30.013 | 101.9 | 30.010 | 76.4 | 30.010 | 76.4 | 30.010 | 76.3 | 30.010 | 76.3 | 30.010 | 76.3 | 30.035 | 76.5 | 29.850 | 81.7 | 29.60 | 28 |
| 21 | 0 | 30.023 | 102.7 | 30.020 | 76.2 | 30.020 | 76.2 | 30.020 | 76.1 | 30.020 | 76.1 | 30.020 | 76.1 | 30.045 | 76.3 | 29.855 | 81.8 | 29.61 | 28 |
| 21 | 30 | 30.033 | 103.5 | 30.030 | 76.0 | 30.030 | 76.0 | 30.030 | 75.9 | 30.030 | 75.9 | 30.030 | 75.9 | 30.055 | 76.1 | 29.860 | 81.9 | 29.62 | 28 |
| 22 | 0 | 30.043 | 104.3 | 30.040 | 75.8 | 30.040 | 75.8 | 30.040 | 75.7 | 30.040 | 75.7 | 30.040 | 75.7 | 30.065 | 75.9 | 29.865 | 82.0 | 29.63 | 28 |
| 22 | 30 | 30.053 | 105.1 | 30.050 | 75.6 | 30.050 | 75.6 | 30.050 | 75.5 | 30.050 | 75.5 | 30.050 | 75.5 | 30.075 | 75.7 | 29.870 | 82.1 | 29.64 | 28 |
| 23 | 0 | 30.063 | 105.9 | 30.060 | 75.4 | 30.060 | 75.4 | 30.060 | 75.3 | 30.060 | 75.3 | 30.060 | 75.3 | 30.085 | 75.5 | 29.875 | 82.2 | 29.65 | 28 |
| 23 | 30 | 30.073 | 106.7 | 30.070 | 75.2 | 30.070 | 75.2 | 30.070 | 75.1 | 30.070 | 75.1 | 30.070 | 75.1 | 30.095 | 75.3 | 29.880 | 82.3 | 29.66 | 28 |
| 24 | 0 | 30.083 | 107.5 | 30.080 | 75.0 | 30.080 | 75.0 | 30.080 | 74.9 | 30.080 | 74.9 | 30.080 | 74.9 | 30.105 | 75.1 | 29.885 | 82.4 | 29.67 | 28 |
| 24 | 30 | 30.093 | 108.3 | 30.090 | 74.8 | 30.090 | 74.8 | 30.090 | 74.7 | 30.090 | 74.7 | 30.090 | 74.7 | 30.115 | 74.9 | 29.890 | 82.5 | 29.68 | 28 |

The table continued from 4 p. m. at 30, to 4 a. m. 21 June.

Observed Readings of Eight Barometers (table continued) from 4 p. m. 20th June to 4 a. m. 21st June, 1843.

| Bombay
Mean
Time. | P. M. | Standard. | | No. 1. | | No. 2. | | No. 3. | | No. 4. | | No. 5. | | No. 6. | | No. 7. | | No. 8. | | Sympiesomr. | |
|-------------------------|-------|-----------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-------------|------|
| | | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Barom. | The. | Symp. | The. |
| | | degs. | | degs. | | degs. | | degs. | | degs. | | degs. | | degs. | | degs. | | degs. | | | |
| | | 29.671 | 87.1 | 29.638 | 83.1 | 29.660 | 85.0 | 29.669 | 85.0 | 29.656 | 84.8 | 29.670 | 85.9 | 29.670 | 63.3 | 29.630 | 88.1 | 29.680 | 86.9 | 29.11 | 83.8 |
| | 4 | 0 | | | | | | | | | | | | | | | | | | | |
| | 4 | 30 | | | | | | | | | | | | | | | | | | | |
| | 5 | 0 | | | | | | | | | | | | | | | | | | | |
| | 5 | 30 | | | | | | | | | | | | | | | | | | | |
| | 6 | 0 | | | | | | | | | | | | | | | | | | | |
| | 6 | 30 | | | | | | | | | | | | | | | | | | | |
| | 7 | 0 | | | | | | | | | | | | | | | | | | | |
| | 7 | 30 | | | | | | | | | | | | | | | | | | | |
| | 8 | 0 | | | | | | | | | | | | | | | | | | | |
| | 8 | 30 | | | | | | | | | | | | | | | | | | | |
| | 9 | 0 | | | | | | | | | | | | | | | | | | | |
| | 9 | 30 | | | | | | | | | | | | | | | | | | | |
| | 10 | 0 | | | | | | | | | | | | | | | | | | | |
| | 10 | 30 | | | | | | | | | | | | | | | | | | | |
| | 11 | 0 | | | | | | | | | | | | | | | | | | | |
| | 11 | 30 | | | | | | | | | | | | | | | | | | | |
| | A. M. | | | | | | | | | | | | | | | | | | | | |
| | 0 | 0 | | | | | | | | | | | | | | | | | | | |
| | 12 | 30 | | | | | | | | | | | | | | | | | | | |
| | 1 | 0 | | | | | | | | | | | | | | | | | | | |
| | 1 | 30 | | | | | | | | | | | | | | | | | | | |
| | 2 | 0 | | | | | | | | | | | | | | | | | | | |
| | 2 | 30 | | | | | | | | | | | | | | | | | | | |
| | 3 | 0 | | | | | | | | | | | | | | | | | | | |
| | 3 | 30 | | | | | | | | | | | | | | | | | | | |
| | 4 | 0 | | | | | | | | | | | | | | | | | | | |
| Means. | | 29.711 | 84.8 | 29.706 | 83.3 | 29.710 | 85.3 | 29.712 | 83.2 | 29.699 | 83.8 | 29.718 | 83.4 | 29.718 | 83.3 | 29.743 | 88.1 | | | | |

Dismissing No. 7, whose sluggish movements render it liable to suspicion, the mean height of the whole of the others may be assumed as nearly the proper elevation of the mercury for the day; this was 29.710.

In comparing the altitudes of the Barometers at 4 o'clock on the morning of the 20th, which may be assumed as the minimum, or nearly so,—No. 7, continuing to descend till 5, with the maximum obtained by all the Instruments, save No. 2, exactly at 9 o'clock, we shall have the following result. In reality the comparison ought to have been with the maximum of 10 P. M. of the 19th, but of this we have no readings.

| | A. M. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------------------|-------|--------|--------|--------|--------|--------|--------|--------|
| Maximum diff. | 654 | 29.780 | 29.780 | 29.792 | 29.774 | 29.792 | 29.799 | 29.800 |
| Mean range | 097 | .694 | .698 | .699 | .658 | .700 | .700 | .730 |
| Interval 5 hours | | .068 | .082 | .091 | .124 | .092 | .099 | .070 |

The following is the difference betwixt the same hour of maximum and the afternoon minimum of the 20th, which follows at 5 P. M., at an interval of 8 hours.

| | A. M. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------------|-------|--------|--------|--------|--------|--------|--------|--------|
| Maximum diff. | 625 | 29.780 | 29.780 | 29.792 | 29.774 | 29.792 | 29.799 | 29.800 |
| Mean range | 122 | .636 | .660 | .662 | .656 | .664 | .662 | .678 |
| | | .124 | .120 | .140 | .124 | .128 | .137 | .102 |

The following is the range betwixt half past 11, P. M. on the 20th and half past 3 A. M. on the 21st.

| P. M. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|
| 11½ | 29.730 | 29.736 | 29.736 | 29.736 | 29.746 | 29.740 | 29.776 |
| A. M. 3½ | .660 | .660 | .664 | .660 | .680 | .676 | .700 |
| | .070 | .076 | .068 | .076 | .066 | .064 | .076 |
| Maximum diff. 010—mean range 71. | | | | | | | |

But on this occasion the Instruments attained the maximum and minimum irregularly, in point of time for example:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------------------------|--------|--------|--------|------|------|--------|
| 10 P. M. | 11½ | 16 | 11½ | 11½ | 11½ | 11½ |
| 732 | 736 | 740 | 736 | 746 | 740 | 776 |
| .660 | .690 | .668 | .660 | .678 | .674 | .700 |
| ½ p. 3 | ½ p. 3 | ½ p. 3 | ½ p. 3 | 4 | 4 | ½ p. 8 |
| .072 | .076 | .078 | .076 | .068 | .066 | .076 |
| Maximum diff. 010—Mean range 79. | | | | | | |

Five Instruments attained their maximum at ½ past 11, and two at 10 o'clock,—they had all fallen during a shower at ½ past 10; and though they all rose again, No 1 & 3 did not attain the altitude they had reached

at the earlier hour; so, in like manner, the morning minimum was disturbed by a shower a little before two, and again before four, which deranged the hour of minimum of No. 5 and 6, whose lowest point was at 4 o'clock. With the correction of 125 here applied to the standard, which exhibits, notwithstanding its disorganization, much the fewest anomalies, it gives very nearly the true range after all. The morning hour of minimum noted on the separate record of the Observatory was 3 A. M. on the 20th, and half past 3 on the 21st, as shewn by the standard Barometer, the morning maximum being 9 A. M. that of the evening half past 11. —The afternoon minimum hour is half past 4. This gives an interval of nearly six hours betwixt the morning minimum and maximum; of seven and a half betwixt the latter and the minimum of afternoon; of seven betwixt this again and the night maximum, and of no more than four betwixt the last and the morning minimum. This, of course, strictly refers to the day in question, and to that only, though it will probably be found to be near that for the month of June on an average of years.

The mean amount of the ascending range betwixt 4 A. M. and 9 A. M. on the 20th, is .097, the maximum .124, the minimum 70; both these are suspicious,—the former is the reading of a playful and vivacious instrument, No. 3, which seldom keeps with its brethren, the latter of a high set, but very dull sluggish one, which generally falls behind in all movements whether in ascent or descent; the maximum difference amongst the seven amounts to .054.

The mean amount of descent, betwixt 9 A. M. and half past 4. P. M. on the 20th, is .122, the maximum 137, the minimum 102,—this again by No. 7, the greatest difference betwixt any two is .035.

The morning descent from half past 11 P. M. on the 20th, to half past 3 on the 21st, is betwixt 70 or 71, according as the Instruments are taken by a fixed hour, or by the points of maximum and minimum attained at different hours.

This experiment I expect to be again able to repeat with a still larger collection of Instruments after the cold weather sets in; it is tedious and troublesome, and worthless, unless the Instruments be of nearly uniform make and of extreme accuracy. This, on the present occasion, was in all respects, the case.

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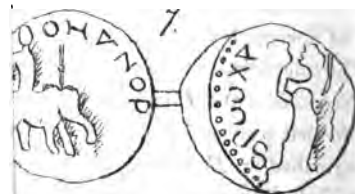
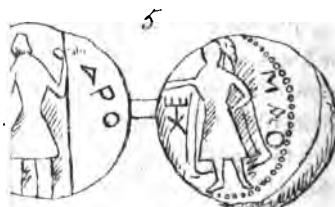
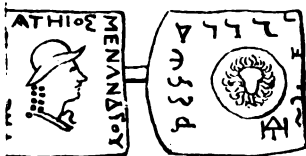
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ART. III.—*Observations on the Bactrian and Mithraic Coins, in the Cabinet of the Bombay Branch of the Royal Asiatic Society.* By JAMES BIRD, Esq.

In the progress of deciphering the cave inscriptions, on this side of India, I was led to the study of the Bactrian, Parthian, Indo-Scythian or Mithraic, Sassanian, and Kanaoj series of coins; and was not surprised to find proofs of an union between the *Bauddha* and *Mithraic* creeds; particularly after the deductions made by Mr. Prinsep on this subject, from his examination of the coins and relics, discovered in the *Tope of Manikyala*.* Though an examination of our small cabinet may not add much to the obscure and lost portions of Indian history, it will nevertheless bring to light some new types of *Mithraic* coins; and is not without interest in the *Parthian* and *Roman* series: as the Parthian includes specimens of the coinage belonging to the *Christian kings of Edessa*, who were alternately in alliance with the Romans, and with their Parthian contemporaries, the kings of Persia. It may be yet further beneficial in extending the knowledge of numismatics among private individuals in this country; who, having directed attention to the collection of coins and medals, may be willing to submit for publication the objects of their research, and thus widen the field of inquiry, by having before them, for comparison, stores of antiquarian relics, capable of illustrating the past condition and mythology of ancient India.

The conquests on the Indus, made by the Greek sovereigns of *Bactria*, the *Seleucidæ*, the *Parthian* and *Sassanian kings* of Persia, introduced into that part of the country, called *Indo-Scythia*, a variety of coins, distinguished by *Mythological devices*, and *bi-lingual inscriptions*, some of which have been improperly classed, as belonging to unrecorded princes of Bactria, while they might be more truly ascribed to some of the Generals employed under the *Seleucidæ*, and to the Parthian and Sassanian satraps of Persia. In this department of oriental numismatics, notwithstanding the distinguished labours of Prinsep and Wilson, there remain ample materials for the investigation of others; and it is yet reserved for some one, possessing extensive historical acquirements, on the subject of

* Journal Bengal Asiatic Society for 1834, p. 438.

ancient times, and with a perfect knowledge of *Egyptian and Hindu* Mythology, to appropriate the several coins to the different tribes and dynasties to which they belong. Without presuming that I possess adequate acquirements for so great an undertaking, I may be permitted to add my mite to the stock of present knowledge on this subject; and if less successful than may be wished, in this investigation, my labours will doubtless be received with indulgence, where men of established reputation have left numerous *lacunæ* to be filled up.

Specimens of ancient Roman coins, in considerable number and variety, are to be found in our cabinet; though we are far from being as rich as we should be in this department, and are without any of those which have been dug up in various parts of this country. The testimony of *Arrian's Periplus* of the Erythrian sea, the knowledge of towns and rivers, on this side of India, evinced in Ptolemy's Geography, and the late discovery, in the neighbourhood of Coimbatore, of five hundred and fourteen Roman coins, of the reigns of *Augustus, Tiberius, Caligula, and Claudius*, afford undeniable proof of the intimate connexion with India maintained by this people, during the first and second centuries of the Christian era, and at the period of their intercourse with the Parthians. Mr. Walter Elliot, of the Madras Civil Service, who is distinguished by like success and zeal in clearing up obscure portions of Indian history, informed me, by letter, that of these 514 coins, 134 were of the time of Augustus, 381 of the reign of Tiberius, 3 of Caligula, and 5 of Claudius. Roman coins have been previously found in the district of Coimbatore: and the late Collector there, Mr. William Garrow, states that a silver denarius of Augustus was discovered in one of the ancient sepulchres of the country called *Pandukulas** whilst a number of irregularly shaped silver coins, stamped, by means of a punch, with various devices, and not uncommon in Southern India, were obtained from another of the same tumuli. These remains were with good reason attributed by Mr. Garrow, to a race of *Pandu Kulas* or Pandya tribe of Madura; one of whose chiefs dispatched the well known *Embassy to Augustus*, as related by *Dion Cassius*, which brought to him from India letters written in Greek as stated by Strabo, on the authority of Nicolaus Damascenus.† Somewhat more than fifty years ago, many

* An account of these tumuli will be found in Vol. III. P. 324, Transactions Bombay Literary Society.

† Strabonia Geograph. Lib. XV. p. 720.

gold Roman coins of the second century were recovered from the foundation of an old Hindu temple, near Nellore, some account of which will be found in Vol. III of the Asiatic Researches. Besides these, several gold Roman coins were found, about three years since, in the neighbourhood of Sholapoor; and an *aurus* of *Trajan* from Cuddapah, with a *solidus* of *Zeno* from Madura, was obtained not long ago by Mr. Elliot.

Many of these Roman coins were doubtless introduced into India, in exchange for commercial articles of luxury, exported by the channels of the Red Sea and Persian Gulf; but some were probably brought by the *Jewish* and *Christian* refugees, who migrated to Mysore, in the *third* and *fourth* centuries: and with whose settlement, in India, commenced the cycle of sixty, which was formed on the model of the Chaldean *Saros*, and dates from A. D. 75.

The word *dinar*, to designate the value of a particular coin in circulation among the Hindus, came to be used in *Sanskrit*, from the period when the Roman coinage was introduced into India; and the occurrence of this term, whether in inscriptions on antique monuments, or in ancient Sanskrit works, will enable us to determine the comparative age of either. The principal silver coin of the *Roman Republic* was a *silver denarius*, after the model of the *drachma*, a leading designation of the Greek coinage, and Arrian, in his *Periplus*, mentions that *denarii*, both gold and silver, were among the articles exported from Europe to *Barygaza* or Broach.* In the Sanskrit inscription, from the *Bauddha* mound of *Bhilsa* in Malwa, translated by Mr. Prinsep, (*Journal B. A. S.* Vol. VI. p. 455,) the son of *Amuka*, subject to the great emperor *Chandragupta*, presents to the five temples of the all-respected *Sramanas* (*Bauddhas*), a piece of ground and twenty-five *dinars*; as an offering from the supreme Raja *Chandragupta*: who is not the *Sandracottus* of the Greeks, but was one of the family mentioned in the *Vishnu Purana*, and who ruled over *Magadha*, about A. D. 427, calculating from the death of Alexander the Great, according to the periods assigned for the *Mauvrya*, the *Sanga*, the *Kanva*, and *Andhra* dynasties of Hindu sovereigns. The name *dinar* again occurs in the *Raja Taringini*, a history of Kashmir, which states Toromana, younger son of Pravarasena, struck *dinars* in his own name,

* See Arrian's *Periplus Maris Erythraei*, page 28, Vol. 1. *Geographiæ veteris Scriptores Græci Minores*.

† History of Kashmir in *As. Res.* Vol. XVI. p. 37.

while he was yet only *Yava Rajya* or associated successor in the empire. This prince was cotemporary with Siladytia I. of Gujerat, who lived about A.D. 270—80;* previous to whose reign the Sakas, or Indo-Scythian tribes, had spread their power and influence throughout western India; and soon after founded the city *Valabhipura* in Gujerat, which gives name to a particular era commencing A. D. 319. According to the authority of the *Raja Taringini*, the ruler of *Ujain* in Malwa, about this time was *Sri-man Hersha Vikramaditya*, the same as *Shapur II.* of Persia; who appears to have possessed himself of Sejistan, and other parts of Indo-Scythia; while part of Western India bore him allegiance under the authority of his satraps. Gibbon,† on the authority of Theodoret, states that the united forces of Persia and India were present while this Shapur besieged Nisibis A. D. 337, during the reign of Constantius; and that the King was obliged to relinquish the siege, and march for the banks of the Oxus, as the Scythian tribes, in the neighbourhood of Kabul, had invaded the northern part of his kingdom. This *Shriman Hersha Vikramaditya* of Kashmir history, who destroyed the *Sakas*, is no other than Shapur II, who, on the authority of Assemanus, instituted a persecution against the *Manicheans* and *Christians* throughout his dominions. Some of the *Mithraic coins*, and the *fresco painting* in a niche of the second idol of the caves of Bamian, belong to this period. But with these preliminary historical remarks, on the subject of coins, I proceed to illustrate those met with in our cabinet.

BACTRIAN GREEK COINS.

We only possess three coins of this series; two of which belong to *Menander*, and the other to *Apollodotus*. Eleven various coins of this class were presented to the Society, by Sir Alexander Burnes, during the

* This date is inferred from the copper plate grants of land, written in the cave character of the Sanskrit language, and obtained from Gujerat; which will be found in page 477, Vol. IV, for 1835, of the Bengal Asiatic Society, and Vol. VII. of the same work, page 966. The latter is plainly dated 365 Samvat or Vikramaditya era. A. D. 309, but Mr. Wathen, who translated the former, mistook the date of it for 9 of the Valabhi era; whereas it is dated, agreeably to the custom of the Balhara emperors of India, in the 32 year of the king's individual reign, or Sridhara Sena who was the predecessor of Siladitya I.

† Gibbon's Roman History. Vol. III. p. 133. In addition to Gibbon's authority, the *Dissertatio de Syris Nestorianis*, in parte secunda Bibliothecæ Orientalis, page LV. may be consulted.

year 1892, but were subsequently sent to him in England, previous to the publication of his work, and have been since deposited, I suppose, among the archives of the British Museum. Without disturbing the chronological data, on which late numismatists have affiliated the reign of *Menander* with the period of the *Scythian invasion*, B. C. 126, by which the Greek kingdom of Bactria was overturned, I may briefly notice, that both this King and his successor *Apollodotus*, prior to the discovery of their coins with bi-lingual inscriptions, were placed between *Euthydemus* and *Bukratides*, or B. C. 220, to 181. The devices of the *mummy* and-feather, emblems of the Egyptian god Pthah, or the *Opifex Mundi*, found in conjunction with bi-lingual inscriptions, on the coins of Menander, like to those on the coins of the *Parthian kings*, *Phraates IV* and *Vologeses I*, but not in use before the time of *Bukratides* and the subsequent Roman connexion with the Parthians, must have been adopted when the intercourse between Egypt and India had become familiar. The occurrence of these devices, and of *Coptic inscriptions too*, on some of the *Mithraic coins*, which date subsequent to the Christian era, seem to confirm the accuracy of those chronologists, who place *Menander* and *Apollodotus* low down in the Bactrian scale.

MENANDER.

1. Square silver coin, middle size, head with helmet to the right; on the obverse, with a Greek inscription, round the edge ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΜΕΝΑΝΔΡΟΥ. On the reverse, an owl, the Athenian emblem for Minerva, with an inscription round the edge in Bactrian Pali *𑀧𑀺𑀢𑀺𑀓𑀲𑀢𑀺𑀓𑀲𑀺* or *Maharaja Rattasa Minanasa*.

2. Square, copper; middle size, head helmeted, to the right; inscription in Greek ΒΑΣΙΛΕΩΣ ΣΑΤΗΡΟΣ ΜΕΝΑΝΔΡΟΥ. Reverse, Medusa's head, the emblem of Minerva, with inscription, in Bactrian Pali *𑀧𑀺𑀢𑀺𑀓𑀲𑀢𑀺𑀓𑀲𑀺* or *Maharajasa Rattasa Minanasa*. The first of Menander's titles, *Maharaja*, is the equivalent of the same in Greek; but the second, which has been considered a translation of *Soterus*, has been variously read by Prinsep and Professor Lassen. Mr Prinsep, after discovering the true nature of this Bactrian Pali, read the second epithet *Ladatasa*, or *Nandatasq*; but Lassen conjectured the reading to be *Tadarasa*, the Prakrit translation of preserver. Neither of their readings have been deemed satisfactory, and I doubt its being meant as a translation for *Soterus*, but is on the contrary the Pra-

Across the field of this coin, written in Bactrian Pali, we meet with the syllable *Kra* ; which, written in Greek, occurs on the coins of the Bactrian princes, *Enthydemus* and his son *Demetrius*. This appellation for the *Sun*, is sometimes written *Kraka*, as on the coins of the Parthian king *Vologesis* I, who lived A. D. 52 ; and seems of similar import as *Grag* in Armenian ; which Mr. Newman, in his translation of the History of Vartan, page 81, says was commonly used by the Armenians to designate the *holy fire*, which the Parsees name, in *Zend*, *Azeran*. A curious passage, in *Arrian's* Parthics, says that *Spartembas*, a friend of the conqueror *Bacchus*, dying, left his kingdom to his son *Budyas*, who after a reign of 20 years, was succeeded by his son *Cradevas*. The resemblance of *Budyas* to *Buddha*, and the perfect Sanskrit termination *Deva*, are striking coincidences : and the very name of the deity *Kra Deva*, occurs in the inscription from Nasick, lithographed at the bottom of the present plate of coins. It reads *Sidham ! Rajino Kshaparatasā Kshatrapasa napapanasa, dhipati dinak putasa, upavedatasa, Kradevanya datumitrya daya dhama: navarka*, of which the translation is—*Be it accomplished. The compassionate gift of the sinless Satrap of King Shapur, son of the Supreme Lord, the day producer, follower of the minor Veda, to Kra Deva, the bestower of Mitra. The new sun, or year.* The name of *Kra Deva* again occurs in Inscription XIV, Plate XLIV, of my work on the Caves of Western India.

MITHRAIC COINS.

4. Middle size, copper. Standing figure to the left, in cap, tunic, and boots, who holds a spear in his left hand, and is sacrificing over a fire altar. Inscription Greek, but of which, the usual BACIAEVC BAEIAΘWN KANHPKI KOPANO part is only visible. R: Figure of a female to the right, clad in a long vest, and holding in her right hand a flower or branch, which is carried to the nose after the manner of the fire worshippers : to which practice, Job makes allusion, in Chap. XXX v. 26—28.

If I beheld the sun when it shined, or the moon walking in brightness,
And my heart hath been secretly enticed, or my mouth had kissed my hand ;

This also were an iniquity to be punished by the Judge, for I should have denied the God *that is* above.

Halo round her head, and inscription on the edge, in Greek, NANAIA. the appellation for the Persian Diana, or *Nanaë* of the Maccabees ; whose temple, at Elymais, or Persepolis, was plundered by Antiochus Epiphanes. This goddess, among the *Chaldeans*, *Syrians*, and *Phenicians*, was the deified moon, and sometimes the morning star, named *Baal-at Samin*, or the Queen of Heaven. She was the same as the *Mithra* of the Persians, the *Myllita* of the Assyrians, and the *Alitta* of the ancient Arabs.

5. Copper. Standing figure of a *Magus*, or priest of the fire-worshippers, who under this form usually represented the sun. Inscription in Greek letters ; of which the first part ΑΡΔ is only legible, but is usually followed by the word ΟΚΡΟ, both combined signifying the excellent *Sun*, as ΑΡΔ, or ΑΡΤΑ, according to Selden and Hesychius, means great or splendid, and ΟΚΡΟ is a Zend or Pali corruption for *Arka* the sun, as rightly interpreted by Mr Prinsep. Reverse, female figure to the left, sacrificing over a fire-altar ; Nimbus round the head ; Coptic inscription on the edge ΜΑΟ, which is the Coptic word *U& X* mother, and the same according to Plutarch as *μouθ* the goddess Math, the Egyptian *genetrix*, and the same as the Persian *Nanaia*.

6. Copper. Figure of a *Magus* looking to the left ; part of the Greek inscription *Αrd Okro* on the edge. Reverse, figure looking to the left, clad in a loose tunic. Inscription on the edge ΑΘΡΟ, the Zend name for fire, and here the symbol for *Nanaia* ; who, whether considered as the *Moon* or the planet *Venus*, was one of the seven fires, or planets, to which the Persians dedicated their fire temples.

7. Copper. Male figure riding on an elephant ; inscription on the edge in Coptic Greek letters ΟΝΑΝ ΟΡΟ, meaning the good king, or an appellation for the sun ; which is sometimes written ΡΑ ΟΝΑΝ ΟΡΟ, signifying the sun the good king. This inscription has been usually considered a Pali one, and read ΡΑ ΟΝΑΝ ΡΑΟ, being interpreted *King of many kings*. It is true that *Nana* in the Pali language means *various*, and *manifest* ;* but here it is the Coptic Ν& ΝΕ or Ν& ΝΟΧ signifying good, applicable to ΡΑ or ΡΗ, the name of the sun : and that this interpretation is the correct one, seems evident from the fact of the reverse of this series of coins bearing a Coptic inscription ΦΑΡΟ *Pharo*, which has hitherto remained without explanation, but is nothing more than the Coptic definite

* See Pali Grammar by the Rev. B. Clough ; P. 73.

article Φ with the word APO for $O\gamma PO$ the *King*; or otherwise a name for the Egyptian god Horus, or a form of the sun. One of this series of coins, now in my possession bears the following inscription EAIHPO, the word *El* being among the Cabbalistic Jews intended to designate one of the numerous *intelligences* or divine orders of beings, formed to execute the commands of the first emanation from God, the primitive man or king of light; while IHPO, written on some of the coins OHPKE, is only an appellation for Horus; who, after the Egyptian manner, is sitting on the reverse of this coin supported by an ornamented seat or lotus. On the reverse of No 7 figure of a female; and imperfect inscription of APΔOKPO.

8. Small, Copper; standing male figure, and inscription PAOKA. Reverse, standing figure looking to the left; rayed nimbus round the head; inscription on the edge MIAPO intended for *Mithro*, or the Persian name for Nanaia.

9. Silver, small size. Bust of a king looking to the left, and holding in his right hand a branch, as if worshipping the sun; inscription in Greek APPAT OPO OHPKI KOPANO, meaning *King of the Arratas Oerki of the tribe Karauna*. The *Karaunas*, or *Koranos*, were a Græco-Indo-Scythic tribe of robbers in the Punjab, who are mentioned by Marco Polo.* Reverse, female and male figure, sacrificing in conjunction over a fire-altar, the former named in Greek letters NANA, and the other OKPO; being otherwise figures of the *moon* and *sun*, similar to the two colossal statues at Bamian, which were probably sculptured B. C. 337: as Clemens of Alexandria tells us, on the authority of Berosus the Chaldean, that Artaxerxes, the son of Darius, and grandson of Ochus, set up statues of the Scythian Venus, at Ecbatana, and among the Persians and Bactrians, and pointed out that such should be worshipped.

10. Copper, small size. Figure of a saint, seated under a tree, like the wood hermits of old. Reverse, standing figure, whose head is surrounded by a nimbus; inscription in Coptic-Greek letters NAN for EN&N, the good.

It has been admitted by those most competent to judge, that an intimate connection exists between the metaphysical systems of the Hindus and those of the Greeks; † and it is not less obvious, from the tes-

* Travels of Marco Polo; P. 86.

† See Wilson's preface to Colebrooke's Translation of the Sankhya Karika, or Memorial Verses of the Sankhya Philosophy, p. IX.

timony of the Bactrian, Parthian, and Indo-Scythian coinage, that regarding the mythology, and idolatry of the two countries, a system of *eclecticism*, on the subject of their gods, from the period when the Greeks who accompanied Alexander the Great into India, first discovered that the *Suraseni* worshipped deities similar in character to Bacchus and Hercules. Herodotus, the father of history,* tells us that the ancient Persians had neither statues, temples, nor altars; but worshipped the expanse of the firmament, under the name of *Jove*, (or the Hindu Indra,) adding thereto as deities, the sun, the moon, earth, fire, water and the winds; till in after times they copied the Assyrians and Arabians, by introducing among their deities *Mithra*, or the celestial Venus; and the same with *Nanaia* of our Mithraic coins, whose statues were originally set up by Artaxerxes, the grandson of Ochus. In her physical character, this goddess represented the natural fecundity of the earth; and in her *astral one*, the moon or the passive influence of the sun; and is hence called on the coins *Mao*, or the mother goddess. She is sometimes called in inscriptions *Myrionyma* or the many named; and when the government of Bactria and countries in the immediate neighbourhood of the Indus, passed from the power of the Greeks and Parthians, into the hands of the Indo-Scythian tribes, the latter appear to have adopted the worship of this goddess; whose name yet survives in Afghanistan, under that of *Bibi-Nani*, signifying in the Pali language, the *wise lady*. The last is an equivalent for *Prajna*, or *deified nature*; known among the *Bauddhas* as *Dharma*, the type of inert matter, not yet evolved into various forms. This is at least her physical character connected with the metaphysical theories of generation; but in her celestial character, she is the *Nanaia* of the *Ard-okro* coins, the Chinese *Tienhow*, (the queen of heaven) named also *Shing-moo*, (the holy mother,) or the passive principle and power of conception.

From the few coins and facts now before us we should not be warranted in tracing further the connection between the deities of the Greeks, Persians, and Indians; and a more comprehensive series of coins is requisite to develop the influence which the mythologies of these countries mutually exercised on each other, through an interchange of kindred subtilties.

* Book I Para. CXXXI.

ART. IV.—*A Chemical and Microscopic Examination of the Rock Salt of the Punjaub.* BY HERBERT GIRAUD, M. D.

Until very recently, the only accounts we have had of the salt mountains of the Punjaub, have been of a geographical and physical character ; the most accurately descriptive of which is that by Sir Alexander Burnes in his travels into Bokhara. (vol. I. p. 52.)

Attention however has been lately directed to the geological features of this interesting range of hills by Dr. Jameson's report of his Deputation by Government, to examine the effects of the great inundation of the Indus.* So far as regards the geographical and geological condition of the salt range, as it extends from Jalalpoor on the Hydaspes, to Maree on the Indus, this report is tolerably complete ; but it may require a more extended comparison of the organic remains of the several rocks to determine how far the limestone which alternates with the red sandstones and red marls, —the sandstones and marls themselves, and the shelly limestone, are the equivalents respectively of the magnesian limestone, the new red sandstone, and the mauschelkalk of Europe.

* “ First report of Dr. Jameson of his Deputation by Government to examine the effects of the great Inundation of the Indus.” Journal Asiatic Society. No. 135, 1843.

I cannot refer to this paper without directing attention to Dr. Jameson's account of the gypsum of Jalalpoor, which he conceived would be so important an article of importation into Bombay, and might be most advantageously used in the public buildings and for making ornamental works.—H. G.

● *Note by the Secretary.*

A quantity of gypsum (*Pierre à platne de Paris*) was imported into Bombay some years ago, from the Persian Gulf, where it is found abundantly, but I am not aware of the result of the experiments that were probably made with it. Judging from the specimens in the museum, it is not very pure, yet sufficiently so for most purposes for which it would be required in this country. Extensive rocks of earthy and granular sulphate of lime exist in the western parts of Marwar, and selenite occurs in various places in Kattiawar, also I found it at Dholgaum in the Rajpeela country.

The following interesting description of Callabaugh is extracted from the introduction to Mr. Elphinstone's Cabool : — “ Callabaugh, where we left the plain, well deserves a minute description. The Indus is here compressed by mountains into a deep channel, only three hundred and fifty yards broad. The mountains on each side have an abrupt descent into the river, and a road is cut along their base, for upwards of two miles. It had been widened for us,

The salt from these mountains has never been in high repute for its purity, and is unfit for most culinary purposes; this has been attributed to the presence of magnesia, although chemical analysis has never been had recourse to, to point out the nature of its foreign ingredients. There are however many features in its general character and appearance, as well as many points of relationship with rock salt from other parts of the world, and with the salt of the ocean that seemed to promise to invest with interest its microscopic and chemical examination. A large quantity of it has lately been imported into Bombay, and from this Dr. Malcolmson kindly favoured me with some well selected specimens.

As it is usually met with here, the salt is in large amorphous masses, varying in colour from white and pink to brick-red; with here and there, the colouring material aggregated into extremely thin laminæ and filling minute vesicular cavities. In a moist atmosphere it is extremely deliquescent, owing to the presence of chloride of calcium; and, as it dissolves, the colouring matter is separated, and deposited in the solution. This colouring material is common, in variable quantity, to rock

but was still so narrow, and the rock over it so steep, that no camel with a bulky load could pass; to obviate this inconvenience, twenty-eight boats had been prepared, to convey our largest packages up the river. The first part of this pass is actually overhung by the town of Calla-baugh, which is built in a singular manner upon the face of the hill, every street rising above its neighbour, and, I imagine, only accessible by means of the flat roof of the houses below it: as we passed beneath, we perceived windows and balconies at a great height, crowded with women and children. The road beyond was cut out of solid salt, at the foot of cliffs of that mineral, in some places more than one hundred feet high above the river. The salt is hard, clear, and almost pure. It would be like crystal, were it not in some parts streaked and tinged with red. In some places, salt springs issue from the foot of the rock, and leave the ground covered with a crust of the most brilliant whiteness. All the earth, particularly near the town is almost blood red, and this, with the strange and beautiful spectacle of the salt rocks, and the Indus flowing in a deep and clear stream through lofty mountains, past this extraordinary town, presented such a scene of wonders, as is seldom to be witnessed. Our camp was pitched beyond the pass, in the mouth of a narrow valley and in the dry bed of a torrent. Near it were piles of salt in large blocks (like stones at a quarry,) lying ready for exportation, either to India or Chorassan. It would have taken a week to satisfy us with the sight of Calla-baugh; but it threatened rain, and had the torrent filled, while we were there, our whole camp must have been swept into the Indus" Page 58—60. 2d.—Ed.



1.



2.



3.



4.



5.



6.



H. Giraud, del.

salt from almost every locality, and has been too hastily referred by Chemists and Geologists to the presence of peroxide of iron; although it is known that other foreign ingredients have in many instances been found imbedded in rock salt, such as silica, carbonate and sulphur of iron, which occur in the salt of Zipaguira in Tropical America. Sulphurets of lead and zinc in that of Halle in the Tyrol; while *organic matters* such as liguites, fruits and minute shells, have been found in the salt of Williezka in Poland.*

Since the astonishing discoveries of Ehrenberg, which have not only displayed the internal organization of the myriads of living infusoria, but have also brought to light the fossil remains of generations upon generations of the animalculæ of early geological epochs, microscopic examinations of the aqueous rocks, particularly of those of the limestone family, have disclosed such vast quantities of organic remains in positions in which the presence of organic matter was least anticipated, that the history of no rock or compound mineral can be considered complete, until it has passed under a strict microscopic examination. To this I submitted the red colouring matter of the salt, and found it to consist altogether of organic remains.† Amongst a confused assemblage of matter, either too minute in its particles, or too broken up into irregular forms to distinguish any thing like the traces of organization, there appeared many bodies which were evidently the remains of infusoria. That marked 1. in the accompanying drawing appears to correspond with the genus "*Synedra*" of Ehrenberg; — it measures $\frac{1}{259}$ inch in length and $\frac{1}{6003}$ inch in breadth. No. 2. resembles, if it is not identical with the "*Gaillonella ferruginea*" (Ehrenberg) the animalcula which constitutes the colouring matter of the iron ochre, and is therefore invested with peculiar interest as appearing in the colouring matter of this salt. Each of the moniliform segments of which it is composed, measures $\frac{1}{1000}$ inch in diameter. No. 3. appears to be related to the last, and should probably be referred to the same genus. No. 4. is abundant in the salt; it has none of the characters of fossil infusoria, but may possibly be the scale of some small fish. It is so perfectly

* *Traité élémentaire de Mineralogie.* Par F. S. Bendant, Tom. 2nd Paris, 1832.

† The Microscope I use is one of Chevalier's acromatics; power four hundred linear.

transparent, that the concentric lines on its surface are only discovered by causing the light from the reflector of the microscope to pass obliquely through it.

The vegetable remains consist of extremely minute filiform bodies having the characters of *confervæ*, and consisting of simple elongated cells, attached end to end to each other. (No. 4.) There are also amongst these, minute orbicular bodies which appear to be the spores of these *confervæ*. (No. 5.) The matrix, in which these distinctly organic remains are contained, is an aggregation of particles too minute and indefinite in form for their nature to be determined; it is probable that a great proportion of them are the ova of the infusoria.

These microscopic examinations were conducted with the greatest care, as it was conceived that farther light might be thrown upon a recent discovery by M. Payen* of the existence of myriads of minute crustaceæ in

* The red colour is observed in the saline water of some springs, as in the evaporating vats of Salumba in upper India, described by Mr. Gubbins of the Bengal Civil Service in the 7th volume of the Journal of the Asiatic Society of Bengal, page 363. The following extract is from a memorandum on the Maldiva Islands by Captain Moresby, I. N. read to the Bombay Geographical Society on the 3rd November 1836; but which does not appear in the proceedings. It throws much light on the cause of the rock salt of very distant regions having the same peculiar red colour.

"In the Milla-doo Madou Atoll are several islands (10 or 12) which have lagoons in them, which the dry land and trees completely surround; in some of these lagoons the water in them is brackish; they are not deep (from 2 to 6 feet); the bottom soft mud and very offensive in smell. No live coral grows in these lagoons; and shells are produced here, which are not found in the sea. In some of the lagoons at very high tides and strong breezes, the sea sometimes finds its way into them and again fills with water what was fast drying up.

At Markandoo Island which is on the centre and east side of the Atoll, there is a lagoon exactly in the centre of the island, which has no connection with the sea, nor ever had, the natives say; it is about one and a half feet deep, the water of a *deep red colour*, perhaps from decayed vegetable matter; it is brackish and *abounds in small shrimps*; and what is extraordinary, its margin is covered with mangrove trees, which are seldom or never found on any of the other islands. This lagoon, the natives say is kept full by the rain, and that it never gets dry."

The red colour of the water no doubt arises from the shrimps or the animalculæ on which they feed, and not on the vegetable matter, to which is to be ascribed the offensive smell of the mud caused by the decomposition of the sulphates in the brackish water. — Ed.

the waters of tropical seas and of certain salt lakes, and which have been found to be the cause of the red colour of the salt, which may be obtained by evaporation from these sources. These crustaceæ have been referred by M. Andoin to the order Branchiopoda.

In the salt however I have in vain attempted to discover a single articulation of these creatures.

Chemical Analysis.

One thousand grains of the dried salt with boiling distilled water afforded a clear solution, and a red pulverulent residue.

1. The qualitative examination of the solution indicated the presence of the following salts:—

Chloride of Sodium.

Do of Calcium.

Sulphate of Magnesia.

It remained unaffected by the action of hydrosulphuric acid. Neither bichloride of platinum nor tartaric acid, (the tests still adhered to by Chemists for determining the presence of potassa,) gave the least indications. The proportion of lime was determined by means of oxalate of ammonia—the precipitated oxalate of lime being converted by ignition into carbonate, from which the proportion of lime, and hence of chloride of calcium, was calculated.

It is always difficult to separate magnesia from the other bases with which it may exist in combination. Most Chemists calculate its proportion from precipitates afforded either by carbonate of potash or by phosphate of soda with free ammonia; both these processes however are beset with sources of inaccuracy; for, by the first, the neutral carbonate of magnesia, precipitated by neutral carbonate of potassa, is decomposed by the action of water in such a manner as to give rise to bicarbonate of magnesia, which is soluble in water, and even though the magnesian solution may be boiled with an excess of carbonate of potassa, yet a portion of magnesia will still remain in solution. The precipitate also of phosphate of ammonia and magnesia is liable to the same inconvenience, particularly as repeated washings are necessary before it is converted by ignition into the neutral phosphate of magnesia. Instead therefore, of either of these

methods, I made use of caustic potassa, by which magnesia is precipitated even better than by carbonate of potassa, and in hot water is so sparingly soluble that the loss is too insignificant to be of any importance.

2. In examining the composition of the *red insoluble residue* I found it to remain quite unaltered under the action of boiling nitric and hydrochloric acids, proving that it could not be an oxide of iron; conceiving it, therefore, to be a silicate of some base, I fused it with carbonate potassa and then by submitting the fused mass to the action of hydrochloric acid, it gave abundant indication of the presence of iron.

Hence the chemical condition of this mineralized organic matter is identical with that of the iron ochre, and it is siliceous like Tripoli, both which are almost wholly composed of infusorial remains.

The following is the composition of 1000 grs. of the salt:—

| | |
|----------------------------|--------|
| Chloride of Sodium | 966.11 |
| Sulphate of Magnesia | 17.93 |
| Chloride of Calcium..... | 14.36 |
| Silicate of Iron | 1.6 |

1000.00

I find upon inquiry that this salt is much used as an aperient amongst the natives of Bombay, and it is probable that from the proportions of sulphate of magnesia, and chloride of calcium in its composition, its properties resemble those of many saline mineral waters; as those of Leamington in the new red sandstone district of Warwickshire.

V.—Metrical Translation of the 1st Book (Sarga) of the Raghuvans'a, a Heroic Sanskrit Poem, by Kálidása.

BY THE REV. J. MURRAY. MITCHELL.

INTRODUCTORY NOTE.

A few preliminary observations will be of service in rendering the following translation from the Raghuvans'a interesting to English readers in general. The remarks now to be submitted will be of the most simple and elementary kind, embodying little or nothing that is new to Oriental

scholars, but probably not, on that account, the less useful to the class of readers for which they are intended.

We may conveniently divide Sanskrit literature into two parts, sacred and profane. It is by no means easy in all cases to draw the distinguishing line; but the two-fold division is nevertheless perfectly just. Generally speaking, the profane portion of Sanskrit literature, when estimated by the laws of criticism and taste, is far superior in merit to the part that is deemed more peculiarly sacred. The most indulgent criticism can scarcely discover any poetical merit in the Vedas and Purāṇas; while on the other hand the most fastidious taste must admit the beauty of many passages in the dramatic, heroic, and pastoral, poetry of the Hindús.

Kálidása, the author of the *Raghuvans'a*, is one of the greatest, if not the very greatest, of the profane poets of India. His name is already familiar to the literary public, having been introduced to notice by Sir W. Jones, in his elegant version of the drama *S'akuntalá*. In attempting to form an estimate of the merits of Kálidása, we encounter, in the very outset, a formidable difficulty, in endeavouring to ascertain whether or not there has been more than one poet of the name. It is about as certain as we can consider any event in Indian history to be, which is recorded merely in books, and not engraved on copperplates or the ever-during rock, that Kálidása flourished at the court of Vikramáditya. Yet it is nearly equally well ascertained that Kálidása flourished at the court of king Bhoja; and it is no easy matter to reconcile the two statements. Jones fixes his era in the century before Christ; Mr. Elphinstone inclines to the fifth century; Colebrooke and Professor Wilson say, at least 900 years ago.* Professor Wilson, in a later work than the one we have just quoted, fairly cuts the knot, by supposing that there were at least two poets, bearing the name of Kálidása. He appears to do so on the ground of the great diversity of style, between the writings generally ascribed to Kálidása and the Nalodaya. The writings of Kálidása are in general characterized, not only by exceeding elegance, but by perfect good taste;—while the Nalodaya, in violation of all the canons of taste, is, as Colebrooke expresses it, “a series of puns on a pathetic subject.” Without entering at length into this question, we shall merely remark, that if Kálidása had lived at the period when the Sanskrit language had attained the

* Wilson's translation of the *Meghadúta*, p. vii.

highest stage of refinement, and just before its corruption began, he might possibly have been the author of the *Nalodaya* as well as the *Raghuvans'a*. Such a man, wielding at will the resources of the most perfect language ever known, was under a strong temptation to attempt, as in the *Nalodaya*, some of those wondrous feats in versification, from which the good taste of the West has not preserved European literature. Poets very frequently (to use the language of Wordsworth,)

Have felt the weight of too much liberty,
and of their free choice they have circumscribed that liberty often by sufficiently odd expedients. Besides, it may be questioned, whether good taste is a uniform characteristic of the undoubted writings of Kálidása. Some instances might be pointed out of what are technically called *conceits*, even in his most elaborate works.

Assuming then the probability of there having been only one Kálidása, we must admire the greatness and variety of his powers. The commendations which have been heaped on the play of *S'akuntalá*, shew, that in the estimation of the best critics, Kálidása is reckoned the prince of Hindú dramatic poets. Jones has styled him the Shakspeare of India. Two other dramas are attributed to his pen, and these are not unworthy of the author of *S'akuntalá*. In the *Raghuvans'a* we have a specimen of heroic, or what may be denominated epic, poetry. We have also, the *Kumára Sambhava* (the birth of Kumára;) and the *Meghadúta* (the Cloud-messenger), beside the *S'rúta Bodha*, a treatise on prosody, and the disputed *Nalodaya*, all probably from his pen. Probably, the greatest effort of the genius of Kálidása is *S'akuntalá*. He excels more in tenderness than sublimity, and the plot of the drama of *S'akuntalá* affords full scope to the bent of his genius. When we speak of the epic poets of India, let it not be supposed that India can boast of epic poetry of the same kind as that of Europe. The rules of Aristotle would fall with crushing weight alike on *Vyása*, *Válmika*, and Kálidása. But apart from all factitious distinctions and laws, it must be confessed, that if sustained elevation of thought and feeling be deemed essential to an epic poet, Kálidása must forego the title. Very seldom does he give utterance to any very lofty sentiment; seldom does he himself kindle, or cause the minds of his readers to kindle. His merits, however, are still considerable. We find in the *Raghuvans'a*, exact and elaborately minute descriptions of natural scenery, proving, that Kálidása had attentively studied nature, and studied her with a poet's

eye. Tenderness has been already mentioned as one of his excellencies. His comparisons, similes, allusions, and figures of all kinds, are most abundant ; they are always at the least pretty, and sometimes beautiful. In regard to language, Kálidása ranks exceedingly high in the estimation, both of his own countrymen and European scholars. On this point, it would be somewhat presumptuous for one, whose acquaintance with Sanskrit is of no long standing, to express any very decided opinion of his own. One thing, however, is evident to the merest beginner. The style of Kálidása is elaborate and refined in the highest degree ; the consummate skill of the artist is visible throughout ; the polish indeed is sometimes excessive.

A good deal has already been accomplished, towards introducing the writings of Kálidása to the notice of the European public. The drama of *S'akuntalá* has been rendered into English prose, by the masterly hand of Jones. Another drama, *Vikrama and Urvasí*, has been translated by Professor Wilson, in his well known and esteemed work, the *Hindú Theatre*. A beautiful little poem, the *Meghadúta*, or *Cloud-messenger*, has been rendered into English rhyme by Professor Wilson. The *Kumára Sambhava* and the *Raghuvans'a* have been translated into Latin prose by a German scholar, Adolphus Frederic Stenzler. The latter two works have been published along with their Latin versions, by the Oriental Translation Committee. Reference will be made to the merits of some of these works by and by.

The *Raghuvans'a*, the first book of which is now offered in a metrical English version, consists of 19 books. The exploits of the race of Raghu form its subject. The line of kings, whose history it contains, is a pretty long one, but the poet at pleasure compresses the narrative of a reign into a few stanzas, or extends it to several cantos. Eight entire cantos are occupied with the history of Ráma, the son of Das'arath. In this part of his work, Kálidása comes into competition with the author of the great mythological poem the *Rámáyana*. He will not suffer by the comparison. Schlegel and other German writers of high name have been profuse in their commendations of the *Rámáyana*, but most men will be disposed to side with Colebrooke on this question. Colebrooke does not consider the *Rámáyana* to possess poetical merit of a high order, but includes it with the sacred poems in general, which he characterizes as "flat, diffuse, and no less deficient in ornament, than abundant in repetitions." From this cen-

sure he excepts, and justly, the chief profane poems. No part of the Raghuvans'a, so far as I know, can be pronounced "flat" or "deficient in ornament." On the contrary, over-refinement, and a far too lavish use of poetical diction and imagery, generally characterize it.

Into the moral character of the Raghuvans'a, I shall scarcely enter. With the exception of the last canto, it is less faulty than might have been expected of the production of a Hindú poet. The last canto, however, is exceedingly objectionable.

As a translation of the Raghuvans'a into Latin prose, has already been given to the world, it may be asked, what need there is of offering a new version of any part of it. Probably, had the Latin version in question, been executed with any considerable degree of spirit and elegance, the following translation of the first canto would not have been thought of. But apart from its total want of elegance, the fact that Stenzler's Latin version is in prose, is a strong objection to it. With the exception of the very highest poetry, as for example that of the Sacred Scriptures, where the sublime elevation, or the fervid devotion, of the sentiment does not require the aid of poetical measures to sustain it, there is perhaps no species of metrical composition in the world, that will bear translation into literal prose. What becomes of the fire of Pindar, or the *curiosa felicitas* of Horace, what of the majesty of Virgil, when those writers are presented to us in a prose translation? And what of the nameless and undefinable fascination of the music that breathes from the language of every true poet?

Assuming then, that a metrical translation is preferable to a prose one, ought it to be in rhyme or blank verse? Generally speaking, it can be much more faithfully executed in the latter. Translations into rhyme generally abound with factitious, not to say spurious, ornaments. The chief objection to a blank verse translation is the difficulty of making it sufficiently musical. In all other respects it is much preferable to rhyme.

The stanza in which the first, fourth, tenth, twelfth, fifteenth and seventeenth cantos of the Raghuvans'a are composed, is called by Sanskrit Grammarians, Anushtubh. It may be called the heroic stanza of Sanskrit poetry. It is far more frequently used than any other in their great poems, such as Manu, the Mahábhárata and Rámáyana, and the Puránas. It bears a resemblance to the measure which is called in the technical language of Latin grammarians, Iambic Tetrameter. An English reader

will understand its general construction, if he supposes two lines of the octo-syllabic measure so much used by Scott, thrown into one, with the rhymes omitted. In the Sanskrit poets, a shloka or stanza consists of four parts of equal length, two of which are written in one line. A shloka is in English terms a couplet, with a distinct pause in the middle of each line. The following marks will shew the construction of the first four stanzas of the *Raghuvans'a*.

| | | |
|-----------|-------------|---|
| — — — — — | — — — — — | } The mark ∪ denotes a short syllable.
Do — a long syllable. |
| ∪ ∪ — — — | — ∪ — ∪ — ∪ | |
| ∪ — — — — | ∪ — — — — | |
| ∪ — — — — | ∪ — — — — | |
| — — — — — | — — — — — | |
| ∪ — — — — | ∪ — — — — | |
| ∪ — — — — | ∪ — — — — | |
| ∪ — — — — | ∪ — — — — | |

It will be seen from the above specimen that each line is kept rigidly to its prescribed *number of syllables*. Each half-line consists of 8; and therefore the entire shloka, of 32 syllables. In this respect the Sanskrit poets enjoy less liberty than the Latin and Greek, who in most metres can vary the number of syllables within a considerable range. But the Sanskrit poets enjoy very great liberty in regard to the *quantity* of the syllables they employ. The four first syllables in each half-line are long or short at pleasure. The last syllable of each line is also long or short.

On the whole, the best idea of the Anushtubh may be obtained from a specimen like the following :—

¶ I sing a race from birth stainless ; successful in each bold emprise;
To ocean's bounds they were victors ; and borne on cars to heaven on
high;
The sacred fire they kept duly ; all watchful they in duty's hour;
Fell on the guilty due vengeance ; no suppliant craved their grace in vain.

The reader who has been accustomed to the rhythm of English verse only, will feel a shock at the middle of each line, arising from the substi-

tution of a Spondee for an Iambus in the fourth foot. But the reader who is acquainted with classic metres will recollect the Scazon or Choliambus (limping Iambus), frequently used by Catullus,—as e. g. in the well-known ode:—

Peninsularum, Sirmio, insulârûmque.
 Ocellæ, quasconque in libentibus stagnis
 Marique vasto fert uterquë Nêptûnus.
 Quam te libenter quam quæ lætûs inviso.

In these lines, at the sixth foot, we have the Spondee, and it has the same effect on an ear accustomed only to English metres, as in the Sanskrit metre under review.

In the following version of the first canto of the *Raghuvans'a*, the number of syllables which each line has in the original is exactly followed in the greater part of the translation. At the 35th stanza a syllable is omitted at the commencement, which changes the verse to Trochaic. The Trochaic measure is kept up to the 60th stanza.

The Spondee at the end of the first hemistich of each shloka has not been attempted. It does not accord with the genius of the English Iambic stanza.

Occasionally, the pause, for variety's sake, has been removed from the middle of the verse. I am not aware that this is ever done in the original.

Occasionally also elisions (as they are generally, though not very correctly, called), have been introduced. In the hands of one who skilfully wields the English measures, elisions tend greatly to the beauty, as well as the variety, of the verse,—as in the line of Milton,

O'er many a frozen, many a fiery Alp,—

in which there are no fewer than three such elisions. Indeed, justice cannot be done to our English metres without the occasional use of elisions. They have accordingly been sometimes employed in the following version.

METRICAL TRANSLATION OF THE 1st BOOK OF THE RAGHUVANS'A,
AN HEROIC SANSKRIT POEM ; BY KA'LIDA'SA.

The pair like thought and speech * conjoined (that I may thought and speech obtain)

The world's great parents, I invoke,—Párvatí and the Lord supreme.

But what the sun-descended † race ! the Poet's feeble genius what !

Ah ! fondly, on a fragile raft, I tempt a wide and stormy sea ;—

I can but prove a laughing-stock, aspiring thus to bard's renown,

As if a pigmy strained his arm to reach the high o'erhanging fruit.

Yet, since, by ancient bards prepared, a pathway to the theme leads on,

I pass, even as the thread may pierce the diamond-perforated gem.

I sing a race, unstained from birth, successful in each bold emprise,

Victorious even to Ocean's bounds, and borne on cars to heaven on high ;

The sacred fire they duly kept ; no suppliant craved their grace in vain ;

Fit vengeance on the guilty fell ; all watchful they in doubtful hour ;

'Twas but to give, they gathered ; still, their measured words to truth
were given ;

Victory they sought for glory's sake ; for offspring the connubial tie.

Learning in childhood ; next in youth, each worldly task and joy were theirs ;

Hermits in age ; from bodily chains freed by devotion's power at last.

Even such was Raghu's lofty line ; even such the poet's mighty theme,—

For why ? their storied high renown impels me to the fond attempt.

Then be it heard, heard by the wise, 'twixt good and bad discerning well,

Even as the quality of gold is tried in the refining fire.

Vaivasvat, of the Manus seventh,—high-honoured by the wise was he,

The mightiest far of earthly kings, like Om the mightiest word of power.

Pure was his race ; purest of all, Dilíp beheld the light of day,

Who shone the first of kings, as shines the moon within the milky sea.

Broad-breasted, shoulders like a bull's, like Shála boughs his long arms
reached ;

As in its own peculiar seat, the Kshatri virtue in him dwelt.

With all-surpassing force endowed, with peerless splendour was he graced,

Towering o'er all on earth he strode, as Meru o'er the mountains towers.

Nor less his wisdom than his force, with aims that wisdom to beseech,

And bold his efforts as his aims, and like his efforts his success.

Stern and yet mild the monarch's mood, he stood before his subjects' eye,

Dreaded yet loved, like Ocean's depths at once with pearls and monsters filled.

And not one hair's breadth from the path, the path prescribed, of holiness,

His subjects swerved ; his chariot tracks with vigilant eye they followed still.

'Twas for his people's good alone his royal revenues were ta'en,

As the sun drinks earth's moisture up to pour it back a thousand fold.

With care his martial force he kept ; by twofold means his power preserved,

* Literally word and meaning.

† The well known *Su'rya-Fan'a*.

A mind much versed in holy books, and his good bow eye ready bent.
 Secret of purpose, self-possessed,—his thoughts ye gathered doubtfully,
 Till from the issue forth they shone, like quickening memories of the past.
 Him, bold in danger's darkest hour, unwearied in each noble deed,
 'Midst all his wealth no avarice swayed, nor pleasure 'mid his bliss enslaved.
 Modest, though wise; though powerful, mild; liberal, yet careless of display;
 Like a rich garland round him wreathed, his native virtues graced the king.
 Unhurt by pleasure's deadly power, with large capacious mind endowed,
 He saw his years steal on apace, yet vigorous was he as of old.
 He trained, protected, nourished all; his people's father he in truth,—
 Their natural parents gave them birth, all other duties he performed.
 Chastising guilt for order's sake, for offspring seeking marriage ties,
 His labour and enjoyment too became religion, righteousness.*
 Earth's best he gave in sacrifice,—Heaven's best poured Indra back again,
 And thus by mutual interchange, the two sustained the twofold world.
 Unmatched the peace in other lands that flourished in his happy realm,
 No robber's daring deed was known,—'twas heard of as an ancient tale.
 Virtue he honoured in a foe, (like medicine by the sick man prized,)
 Cast off the vicious tho' a friend, (even as ye would a poisoned limb.)
 Such was he,—sure, combined in him were all the mighty elements,
 For every faculty was bent on every side to scatter bliss.
 Earth, girdled by its sandy shore and circled by its ocean fosse,
 He swayed alone, and calmly swayed, as it had been a single town.
 Sprung of the line of Magadha, Sudakshinā his royal spouse,†
 (So from her gentle nature called) was sweet as holy gifts are sweet.
 Many within his palace walls the lovely dames that owned him lord,
 But Lakshmi‡ and this fair alone his heart's devotion full received.
 Much longed of Sudakshinā to see another self produced,
 And still he wished, but vainly wished, for long delay had balked his hope:
 Until at last he went to prove the utmost power of holy rites,
 The burden of his state-affairs resigning to his counsellors.

§ First the sacred rites they rendered, then the pious king and queen
 Sought the sage Vas'ishta's dwelling, by desire of offspring led.
 Seemed they, on the car ascending, (deep and pleasant was its sound,)
 Like the lightning and Airávat|| on the murky thunder-cloud.
 Let the holy sage be burdened, small the retinue they chose,

* There seems a reference here to the Bra'hmanical opinion of the four grand objects of human pursuit: religion, power, enjoyment, final emancipation. The king's pursuit of enjoyment was as good as the pursuit of religion.

† There is here a play on the words, a thing pretty frequent in this poem. "Sudakshinā" was as pleasing as the *dakshinā*."

‡ Lakshmi seems here to mean the Goddess Lakshmi, the wife of Vishnu, the goddess of prosperity.

§ The measure in the translation here charges to Trocheal. It differs from the former by the omission simply of one syllable at the commencement. It is a livelier measure than the former. The measure in the original is the same as before.

|| The elephant of Indra.

Yet their native port majestic looked a guard around them placed :
 O'er them played the blissful breezes, breathing Shálá odours round,
 Fell the fragrant flow'r-dust o'er them, danced the rows of forest trees :
 Pleased they heard the peacocks' voices shrill resounding on the way,
 Still, as rolled the sounding chariot, lifting up their heads to gaze :
 Stedfast on the chariot looking pairs of antelopes they saw,
 In whose large and glassy eyeballs mirrored they themselves appeared :
 In a line the cranes were flying, gently murmuring, overhead,
 Like an arch* enwreathed with garlands, baseless, hanging in the sky :
 Softly swept the breezes with them, ominous of good success,
 Nor was face nor raiment blemished by the dust the steeds upraised :
 Sweet the fragrance of the lotus, sweet as their own breath was sweet,
 Wafted from the lakelet's bosom, where the cooling ripples ran :
 Offerings they received and blessings in the towns themselves had reared ,
 Where the sacrificial column shewed the recent holy rite :
 Each with present of fresh butter crowded the old herdsman near,
 Whom the royal pair would question of the forest trees around : —
 Theirs was beauty, theirs was splendour, moving onwards clothed in white,
 Like the moon with Chitrát beaming in a pure and cloudless heaven :
 This and that the gracious monarch, smiling, shewed his loving spouse,
 Nothing recked he of the journey long protracted though it was ;
 Till at last, with jaded horses, at the holy hermitage
 Of the Rishi, in the evening, late arrived the royal pair.
 From the forest depths returned and moving near the dazzling fire,
 Holy hermits there were bringing wood and fruit and kus'a grass ;
 Round the entrance deer were couching, fed on rice with nicest care,
 Seemed they like the Rishi's children, fearless crowding by the gate :
 Here the sages' gentle daughters, watering quickly left the trees,
 Lest they scare the timid warblers from the little water-pools :
 Now the blaze of day was over,—and the ruminating deer,
 Where the ground with rice was sprinkled, lay at ease around the cell.
 By the sacred offering's odour, and the smoke the breeze conveyed
 From the holy fire there blazing, they were purified anon ;—
 " Stop the car" exclaimed the monarch, and then, turning to his spouse,
 Gently helped her in descending, then himself alighted down.
 Lowly did the meek ascetics in obeisance faithful bend
 To the monarch great and gracious and to her his partner dear.
 When the evening rites were ended, they beheld the mighty sage,
 With Arandhat† there shining, like the Fire-god with his spouse:
 Reverently the mighty monarch and his queen their feet did grasp,
 While with accents kind and courteous greeted them the holy pair.
 Soon each hospitable office banished all the journey's pain,
 Then the sage the sage-like monarch questioned on his kingdom's weal ;
 He the all-victorious hero, graced with matchless eloquence,

* तोरण The head of a gateway, perhaps whether arched or not.

† Spica Virginis.

‡ His wife.

Filthy answered thus the question of the reverend awful sage : —

" * Since thou divine and human harmfulike dost ward off skilfully,
 " Success and all prosperity in every point my kingdom bless ;
 " Resistless are thy sacred spells, they quell all enemies afar ;
 " Superfluous lie my arrows by,—my darts that never missed the mark.
 " Thou throw'st the offering in the fire, a sacrifice of solemn pomp,—
 " 'Tis turned into a shower of grain, that banishes all want and fear :
 " Safe and unharmed my people live the utmost term of human life,
 " Thy holy merits are the cause, 'tis thou procur'st our happiness.
 " O sage of heavenly lineage born, while thou remain'st my steady friend,
 " Joy linked-with joy must flow to me, and blessing heaped on blessing crown.
 " Yet what is Earth to me with all its lovely isles, its precious gems,
 " When never from thy daughter here a child—another self—has sprung ?
 " The Manes of my fathers see the S'raddha's offering must expire ;
 " Scarce can they now partake, but turn in sorrow from the sacred cake.
 " And all the holy water too, which I have poured, must cease to flow ;
 " Foreseeing this, they drink it now all tepid by their woeful sighs.
 " Thus purged in soul by holy rites, yet darkened by a failing line,
 " Splendid yet wrapped in gloom am I, like Lokáloka the far mount.
 " The righteousness of holy deeds is blessedness in worlds to come,
 " But double bliss ('tis here and there) springs from a spotless progeny.
 " Thus thou behold'st me desolate, and mourn'st thou not, O holy man ?
 " Fast by thy door a cherished plant is barren all and sapless found.
 " This greatest, crushing, load of grief, O mighty sage, I cannot bear ;
 " Like a bound elephant am I, vain-struggling the cool stream to reach ;
 " And thou must point the path to rest, the mode deliverance to attain,
 " Who still in all distress hast proved the saviour of Ikshváku's line."
 The Rishi heard the monarch's words, and wrapped in thought profound
 he stood,

With fixed eyes, a moment's space, — so in a pond might fishes sleep.
 Through deepest meditation's force his fixed mind beheld the cause
 Why failed the mighty monarch's line, and thus the sage addressed the king :—
 " 'Twas once, when thou hadst been to pay thy worship to the King of Heaven,
 " And back wert speeding, Surabhī† beneath the kalpavriksha‡ stood.
 " To her all worthy of regard thou paid'st not veneration due,
 " For eager wert thou pressing home to join thy spouse so well beloved.
 " 'Dost thou despise me' ? she exclaimed ; ' be without offspring, till thou
 learn'

* The measure in the translation is here Iambic again, and so to the end. In the original it never varies.

† Lokáloka is enlightened on one side, and dark on the other. The account given of it in the Vishnu Purána is as follows :

Beyond the sea of fresh water is a region of twice its extent, where the land is of gold, and where no living beings reside. Thence extends the Loka'lóka mountain, which is ten thousand Yojanas (80,000 miles) in breadth, and as many in height ; and beyond it, perpetual darkness invests the mountain all around ; which darkness is again encompassed by the shell of the egg.

Wilson's Vish. Pur. p. 202.

‡ Or Kámadhenu, the cow of plenty, who gratifies all the wishes of her owner.

§ A tree that yields every thing desired.

" ' My offspring to revere ; ' even so lighted on thee her withering curse.
 " Loud sporting were the elephants amid the Gangá's heavenly stream,
 " And nor by thee, O king, the curse, nor by thy charioteer, was heard ;
 " Yet 'tis for that impiety that all thy hopes have blasted been, —
 " Pay worship wheresoe'er 'tis due, or bid adieu to happiness.
 " To yield the offering needed for Varuna's lengthened sacrifice,
 " Now deep she dwells in Pátála, whose doors fierce serpents strictly guard ;
 " But, monarch, to her offspring here pay with thy spouse the reverence meet ;
 " If she shall but propitious prove, she too is Surabhí to thee."
 Forth stepped the blameless Nandaní from out the wood while thus he spoke—
 The cow whose milk the sage employed to offer holy sacrifice.
 Brown was her hue, all beautiful, soft, polished, like the freshest spray ;
 Gleamed on her forehead a white mark, as the new moon in twilight gleams.
 Whene'er she to her young one turned, her warm milk streamed upon the
 ground
 As from a fount,—'twas holier far than water in the sacrifice.
 The dust excited by her hoofs the body of the monarch touched,
 And gave a purity as if the king had bathed in holiest spot.
 Right joyfully the awful sage beheld the beautiful in form,
 And thus addressed his royal guest no longer doomed to blighted hope.
 " Know, monarch, thy deliverance comes, I see I see it close at hand,
 " Since thus at once, when called by name, bliss-giving Surabhí has come.
 " Living on what the woodland yields, her must thou follow step by step,
 " As students science's footsteps track, even so must thou propitiate her ;
 " Move onwards, when she moves ; when'er she rests, rest thou beside her
 there ;
 " Recline, when she is pleased to couch ; drink, whensoe'er thou see'st her
 drink.
 " And to the border of the wood, let thy queen also follow her,
 " With punctual care, at noon ; and so, still meet her in the even tide.
 " Thus shalt thou yield her reverence meet, till she shall all propitious prove,
 " Success attend thee ! Be thou first of all who bear a father's name."

 " So be it " Humbly, with these words, the prudent monarch with his spouse
 Like meek disciple bending low, received his holy master's word.
 Then did the holy awful sage, when even's darkening hour arrived,
 Dismiss the monarch to repose, whom brighter hopes were cheering now.
 All boundless was that sage's power, yet, lest the holy rite be marred,
 Thoughtful, he but the simplest means prepared the monarch to receive.
 He pointed out a hut of leaves ; soon entered it the king and queen :
 And while the sage's pupils there in holy studies passed the night,—
 Where kus'a grass bestrewed the floor, full sweetly slept the royal pair.*

* The last three lines correspond to two in the original, the last shloka of which is in a long-
 measure than the rest of the book. The addition of one or two longer stanzas at the end is
 frequent. It may be compared to the use of the Alexandrine in English metres.

VI.—*Botany of the Bombay Presidency.*

The following notice, by Sir H. J. Hooker, of the late Mr. Graham's Catalogue of Bombay Plants, extracted from the Journal of Botany for 1841, will interest such of the readers of this Journal as know that work, or who take an interest in Botany or in Agri-Horticultural improvement. Of no part of India is the Botany so little known, as of the Bombay territories; but it is hoped, that an improved and greatly extended catalogue will soon be published by a gentleman well qualified for the task, to whom much of the value of MR. GRAHAM'S work is due.—ED.

"A Catalogue of the PLANTS growing in BOMBAY AND ITS VICINITY, spontaneous, cultivated, or introduced, as far as they have been ascertained. By JOHN GRAHAM, Bombay, 1839."

"Besides the late John Graham, Esq. Deputy Post Master General of the Bombay Presidency, whose name stands as the author of this catalogue, Joseph Nimmo, Esq. of Bombay, has been long known as deeply interested in the Botany of Western India, and with both of them we have enjoyed correspondence. The MS. of this work in question was presented to the Agricultural and Horticultural Society of Bombay in 1838, accompanied by the following letter, addressed to James Little, Esq. Secretary to the Society.

"Sir, I beg to present to our Society a list of the vegetable productions of the Bombay Presidency, and to signify my willingness, to see it correctly through the press, should the Society deem it worthy of publication. It has been drawn up with great care, through the assistance of Mr. Nimmo, and not a single plant is put down which has not been seen and examined by one or other of us. I need hardly say that such a list is much wanted by all who pay any attention to the study of botany, and will save much time and trouble in consulting books and figures.

I am &c. &c.

John Graham,

Member of the Agric. and Hortic. Society.

"The Committee of the Society promptly and liberally accepted the offer, and the printing of the catalogue had proceeded under Mr. Graham's superintendence, as far as the 200th page, when death terminated his labours. The remainder has been completed, the preface tells us, under the superintendence of Mr. Nimmo, who has been for many years

a zealous and successful labourer in the same field of science, and who has given the gratifying assurance, that he will continue to dedicate his time to the investigation of this hitherto neglected part of India, much of which still remains unexplored, and that he will print supplements to their catalogue from time to time, as additional species and additional information present themselves. Various have been the assistance and contributions received from different sources towards promoting the interests of this volume, but acknowledgements are more especially expressed to Mr. Law of the Civil Service, together with Drs. Lush, Gibson, Murray, and Heddle of the Medical Establishment, with all of whom the author was in constant correspondence and from whom he received very important aid. With regard to Mr. Graham himself, we learn that he was a native of Dumfries-shire, and that he arrived in India in 1828, under the patronage of the late Sir John Malcolm, who was at that time Governor of the Bombay Presidency, and that he was honored with his friendship, and esteem, and resided in his family until he was nominated by him Deputy Post Master General, an appointment he held till the period of his death. He possessed a combination of qualities which peculiarly fitted him for that Office. The performance of his arduous duties, indeed, left him little leisure for the prosecution of his favorite pursuit; but the few and brief opportunities which were afforded him, were eagerly seized and improved; and one of the objects he had most at heart, while Superintendent of the Society's Garden, shortly after its establishment, was to store it with an extensive assortment of rare wild, as well as useful Indian plants, chiefly collected by himself. He expired at Khandalla, the favorite scene of his botanical researches, on the 28th of May, 1839, at the age of 34, after only a few days illness. The intelligence of his decease was received at every station within the Presidency with an almost universal feeling of sorrow and regret, and his friends have testified their admiration of his character, and their grief for his death, by the erection of a handsome monument over his grave.

To Mr. Nimmo, this country, Britain, and the Glasgow Botanic Garden in particular, is indebted for the introduction of several rare and beautiful Indian plants, amongst them the singular *Impatiens Scapiflora* (W. and A.) in the *Botanical Magazine*, tab. 5387, the splendid *Habenaria Gigantea*, (Bot. Mag. t. 3374) the *Habenaria Goodyeroides*, (Bot. Mag. t. 3397.) and many others.

The arrangement of the work under notice is that of De Condolle's *Prodromus*, and the number of species, including *Ferns*, is 1799, exclusive however of several new plants mentioned in the supplements, and some new genera. The book is much more than a catalogue; there are tolerably copious synonyms, references to figures, remarks on the uses, properties, &c. and frequent poetical and classical allusions and characters of the new species. That such a publication in the Presidency itself will tend materially to promote the study of the Botany of the Western side of India, we cannot for a moment doubt; nor that this stimulus will induce many, who have the inclination and the opportunity, to explore the great chain of the Ghauts, (which could not fail to yield an abundant harvest) and much interesting country to the north of Bombay, particularly Guzerat, Cutch, and the great sandy deserts bordering on the Sind and on Moultan."

VII.—*Ehrenberg on the Formation of the Coral Islands and Coral Banks in the Red Sea.* Concluded from page 136.

HISTORICAL ACCOUNT.

The most ancient accounts of corals being masses of rock, refer to those of the Red Sea, and to the dangers said to be incurred near them on voyages from North Africa to India, which attracted the attention of nations in very remote ages. It is, nevertheless, surprising, that there are no particular accounts of these coral banks even at the present day. It is true Forskal's exertions have thrown some light upon the subject, still he has not given us a complete description of these phenomena. He merely sketched with a few happy strokes the general appearance and the extensive distribution of the corals, * whilst both before and after his time, the animals which form the corals have been treated of with little detail, and without order.

* Descr. animal p. xxix. Montes coralliferi aburbe. Tor usque ad Ghonfadam ripas muniunt submarinas densissime post hanc urbem versus meridiem rariores evadunt (an desinant plane nescio), ita nautae, quantumvis timidi et inexperti jam securis navigent velis nocturno quoque tempore. Suensia littora nesciunt Cotallia.

In Lord Valentia's map of the Red Sea and in other geographical and hydrographical papers, many coral reefs are marked; thus some light is thrown upon their extent, but they require further illustration and should not be confounded with sand-banks. We had many opportunities of ascertaining, that they were often marked in wrong situations and in wrong directions; we found also that their forms were generally given incorrectly. It appears that those who have been there and have given us an account of their voyages, sailed by these cliffs and islands at high water without stopping to examine them, sketching the places pointed out to them by the Pilots without perfectly understanding them. As only a few havens have been accurately examined and are perfectly known, they cannot give a clear idea of the whole.* As the interest excited by the descriptions of the coral islands in the Pacific is now so great, we feel assured that an account of those in the Red Sea will not be unacceptable.

The stay of Dr. Hemprich and myself on those coasts, enables us to give a more perfect description of these banks. We stayed there eighteen months, nine months in 1823 and the beginning of 1824, and the other nine in 1825. We spent nearly twelve months on board a vessel in that sea, sailing almost through the whole of its extent; we saw a great number of islands and coral banks, and touched at forty-eight different points on the coasts for the purpose of examining them accurately. We observed about 150 different islands and places on the coasts, situated in various degrees of latitude, besides those which we examined stretching along the coast of Sinaitic Arabia, nearly 200 miles in length. We also made a collection of the different species of coral animals which we found on the coral banks, nearly the whole of which we presented to the Royal Museum; and which contains 110 different species, consequently nearly 3 times as many as those collected and described by Shaw, Forskål, Savigny and Rüppell together. The knowledge of the formation of corals in the Red Sea, thus gained by labor attended with considerable danger, is, I trust sufficiently accurate, to render the following a just account of the subject.

General description of the extent of Coral Banks in the Red Sea.

The Red Sea if compared with the Mediterranean, Baltic, and North Sea and the Atlantic ocean with their coasts, appears to Europeans to dif-

* The chart of this sea by the officers of the Indian Navy was not published when these observations were written. — *Edit.*

fer from them in having all its shores encircled with flat rocky banks which just rise to the surface of the water, but are almost always covered with it. They are sometimes found at a great distance from land, and as they are not easily discernible even when very near, vessels are exposed to great danger from them. These banks are always wet even when they rise above the surface of the water and become visible; the Arabs call them *Shaebē*, in the plural *Shaebān*, to distinguish them from islands which they call *Gesire*, in the plural, *Gesirāt*. With the exception of Suez, Tor and Yambo, there are very few havens in the Red Sea which allow even the Native craft to anchor near the shore, on account of the flat banks of rock which often stretch out a quarter to half a mile, and are covered with little water, or are quite dry at low ebb; it happens frequently that the crew cannot even go on shore in small boats owing to the shallowness of the water, but are obliged to leave the boats a great distance from land, making them fast to rocks and anchors, while they themselves wade a considerable distance through the water to reach the land. When we visited these shores the crew usually carried us, with our arms and luggage, on their backs to the land and back for a mere trifle.

Besides this rocky beach which is evidently connected with the mainland, upon which there are occasional hills formed by the sand drifted from the shore, there are other flat rocks scattered at small distances in the sea; these being rather lower than the rocky beach, are covered with water, and between it and them, there are channels containing one, and sometimes two fathoms of water, formed by the waves which break over them; here small vessels may safely anchor. These rocks which rise from the bottom of the sea are covered with corals, they form indeed the coral banks of the Red Sea; they are sometimes found in one unbroken chain near the coast, sometimes they run in parallel lines into the sea. In the most violent storms, vessels which are on the leeward of these coral banks may be considered out of danger, as they may be secured in various manners with iron hooks, chains, ropes and anchors. These reefs are sometimes very long, and vessels which are driven by violent winds and sometimes by currents so near them that the rudder and sails are rendered useless by the force of breakers, are inevitably lost, the rising surf throwing them against the rocks and thus dashing them to pieces. I shudder when I remember the danger to which I was personally exposed when our ship was sailing from Suez to Jeddah; we were driven in broad daylight on

one of these small reefs near Wush, notwithstanding the continued exertions of the crew ; three shocks which the vessel received by three waves carrying us over the bank, made us every moment expect certain destruction. Happily there was sufficient water on the reef to bear the vessel, so that the fourth wave carried us again into the deep water where we were kept in dreadful suspense for three hours, until it was ascertained that the vessel was merely shaken but not broken. Sheikh Imam Abdallah, a man with snow-white hair, who was on a pilgrimage to Mecca received in solemn silence the blessings and the tears of gratitude of 50 persons, who ascribed their deliverance to his presence.

These reefs are most numerous on the Arabian coast, half way down the Red Sea. From Tor in the Bay of Suez down to Camfuda in Arabia Felix, all we saw were of the same form ; but this formation of coral banks becomes more rare both in the north part of the Red Sea from Tor to Suez, and in the south part from Camfuda to Mocha ; in the south we saw only one of this description a little north from Nakuhs. This the Arabs affirm to be the last ; they call it therefore Shaeb-el-Chassa. We could not ascertain for ourselves that there were, indeed, so few coral banks in the southern part of the Red Sea, but the seafaring men told us that they could sail day and night both from Suez to Tor, and from Camfuda to Mocha, while no Arab vessel which keeps the coast in view, ventures to sail by night in the whole middle part from Tor to Camfuda. As sudden storms frequently rise and there are but few secure places for casting anchor, broad daylight is required in order to put in to any port.

The depth of the middle part of the Red Sea is so great that an anchor cannot be cast there, and this causes such tremendous waves to rise on a stormy day, that no vessel without a deck can resist them. I do not recollect to have seen such a rough sea and such high waves in any other sea with which I am personally acquainted, and which are the Mediterranean, the Adriatic, the North Sea, the Baltic and the Caspian Sea near Astrachan, although I have had many stormy days on the four first mentioned seas, and make full allowance for the small size of the vessels used by me on the Red Sea.

The highest waves I have ever seen, I found in the deep sea between Sherm-el-Sheik, the isle of Tiran and Ras Mohammed at the entrance of the bay of Akaba, where also according to seafaring men no bottom is found at a depth of 100 fathoms. We did not meet with such

high waves in the southern part of the Red Sea, although on my return from Abyssinia I had to endure a severe storm for three days.

I had also sufficient opportunity of ascertaining that there is no want of coral banks in those regions, for when we crossed the sea from the Arabian isle Camaran to Dhalac, we met with coral banks near every island and with several detached coral rocks, nearly the whole of which were covered with water, and consequently would be reckoned amongst the most dangerous in the Red Sea if they were situated in the track of vessels. I am therefore of opinion, that the inconsiderable depth of the sea * and the want of high waves rather than the want of coral rocks are the causes, why seafaring men sail with greater security in Yemen. In this general description of the coral banks of the Red Sea, I cannot omit noticing that in the middle and deepest part of this large sheet of water from Djedda in Arabia to Cosseir in Africa, not a single coral bank is to be found. On my return from Yemen to Cossier I was on board the large Egyptian Brig El-Kandil, which, on account of its having a deck and being commanded by a Grecian Captain, sailed on the high sea out of sight of land. Contrary winds obliged us to tack for twelve days and nights, notwithstanding this, we did not meet with a single coral reef on this voyage, the captain steered the vessel towards evening in the direction of the Arabian coast, and during the night he sailed into the high sea in the direction of the African coast. The only rocks which we saw in the high sea was in the latitude of Cosseir itself; it was the isle Fennatir, consisting of two rocks; northward of this island more isles and rocks gradually make their appearance which allow the entrance of native vessels into the bay of Suez only at day-light. In a similar manner do the islands of Tiran and Barkan with other neighboring coral reefs block up the entrance into the bay of Akaba; Fennatir however is no coral bank but consists of two small rocks rising above the surface of the water.

If you look at the shores of the Arabian sea and compare with them the coral rocks and isles of the same, you will find that where the water is shallow, there coral banks and isles abound, but that not a single coral reef rises out of deep water. They are therefore in greater abundance in the neighborhood of flat shores, or where it is apparent volcanoes have

* Don Juam de Castro in 1540 found the depth of the middle of this southern part only 10 to 11 fathoms. *Hist : Gen. des. Voyages* I. 174; also Lord Valentia in 1804.

produced risings and fillings up of the bottom of the sea. The Arabian seamen of Tor told us expressly, that the bay of Suez, in the southern part of which there are many large coral banks at some distance from the shore, is no where very deep, as they have had occasion to ascertain by casting anchors, and more frequently by fishing with angles. According to their account, the greatest depth of the bay of Suez in the middle part, does not exceed 50 fathoms; it is often much less, only 20 to 12 fathoms; farther towards Suez it is only 10, and gradually near the city from 2 fathoms down to 1 fathom. South of Ras Mahammed a log line of 100 fathoms deep did not reach the bottom, and deeper measurements were not tried. The greatest depth in the large basin or bay of the Pharaoh's sea, Birket Firawn, which I myself have measured with a line of 50 fathoms, amounted to 45 fathoms. It is true, from the appearance of Naphtha near Gebel Setic (mountain of Olives) on the African coast, (I have seen such Naphtha in Tor and observed the rocks of Gebel Setic at a distance) which is in the same latitude as the numerous coral banks of the bay, the hot wells near Hamam Firawn, and the warm wells near Tor as also the mountainous region abounding with black rock, which Burkhardt says he saw near Ras Mahammed, but which we did not find, we have reason to conclude that there have been volcanoes, and may still be in the neighborhood. It is probable that the reason of there being many more small islands and rocks scattered along the coast of Arabia than on that of Africa, is that the whole of the coast is of a more volcanic nature. That this is the case was an opinion entertained by Leopold Van Buch; and is mentioned at the end of his celebrated work on the Canary islands, inferred from the works of former travellers, and which I had occasion to place beyond a doubt in a lecture which I delivered at Berlin in the year 1827, *On the character of the Libyan Desert*, by adding facts observed by myself to what was already known. It is true that the whole Arabian Peninsula presents evidence of former volcanic eruptions which may have produced it wholly, or altered its shape, while none of these signs have as yet been observed on the African coast from Cosseir down to Massava, although it has been frequently visited by travellers both by land and water. It is therefore, probable, that the latter coast has fewer coral reefs, and what I saw in the neighborhood of Cosseir, confirms this supposition. In the southern part of the Red Sea there is at the present time a focus of volcanic activity called Sebahn or Gebel Taer (mountain of

birds, mountain of the monastery). Many small coral reef islands are also found in the midst of the sea, the depth of which is not great. From the middle part of the Red Sea to Cosseir there being no volcanoes, the water is very deep and quite free from islands and coral banks. The coast near Suez has no coral reefs and is level.

On the formation and peculiar shape of the Coral Banks of the Red Sea.

All coral banks in the Red Sea have something characteristic. Their tops are flat and run parallel with the surface of the water. They never form indented cliffs above the level of the sea. Their tops lie from between $\frac{1}{2}$ to 2 fathoms below the surface of the water, and at low water one or more small points appear which with every fresh wind are covered by waves. These points are but small loose masses of rock of a darkish color; they are never corals but always fragments of a very hard limestone with a slaty fracture. They often appear to be beacons planted there on purpose, and often may be used as such; but we had opportunity to ascertain that the greater part of them were no artificial beacons, there being numerous similar points close by. The greater part of all such coral reefs, of which a few stones only rise above the sea, is a few feet below the surface of the water. We never saw local elevations of the height of a couple of fathoms; we never met with any thing like raised mountains except they were islands containing no corals whatever. I never could find any fragments of coral on the surface of all the many flat and elevated islands visited by me, neither could I see any meadows or fields of dead but well preserved coral animals, as Forster, Vancouver and Peron found in the South Sea, and which the latter ventured to describe not as a volcanic product but as a production of the receding sea.

The shape of the coral banks in the Red Sea is not circular with a lake in the middle, as it has been observed in the South Sea. The peculiarity of Australian reefs which was first noticed by Flinders, namely that the part exposed to the high sea and the breakers is always higher than that to the leeward, cannot be applied to the coral reefs of the Red Sea. It is true the sides of all coral banks are irregularly indented; but we found them almost always in straight lines; we never saw one side of them very remarkably elevated, although in the Red Sea too there is a certain regu-

larity in the winds, and the north winds are decidedly the most prevalent there. We never saw the outer edge of the reefs elevated even when exclusively exposed to breakers and stormy waves; on the contrary I have often found this outer edge sloping and gradually deepening. This is partly the case with the coral bank which forms the haven of Ter.

The characteristic form of the coral banks of the Red Sea is rather long, fringe-like, and tabular. Generally speaking these coral banks form the edge of the coast, but they are also found in numbers at a distance of several miles from the shore, rising out of the high sea; still as many as we closely examined, seemed to run parallel with the coast, and thus appeared to be connected with it at their basis. I do not remember to have seen a single reef among the number of those examined by us which runs at a right angle with the coast; it is true we met with some whose banks differed little in length and breadth, but also these sometimes show their affinity with those of a fringe-like form, as they are placed together in rows and form, one fringe often broken but still retaining on the whole the same character as the others.

The Arabian coral banks besides their being flat, long and running parallel with the coast, have this peculiarity, that the water is extremely deep on the side towards the open sea, so that the depth of the sea sometimes exceeds a hundred fathoms. The coral banks forming the immediate edge of the coast so as to be united with the shore, have of course but one fall towards the sea, which usually is very deep close to the edge. The rocks which rise from the open sea have on account of their long and narrow shape, properly speaking, only two declivities, one towards the coast, the other towards the open sea. The declivity of the broad flat coral reef is often gradually sloping. The sea towards the shore is generally not very deep, so that larger vessels avoid as much as possible to sail between the reefs and the shore. However, middle sized vessels and small craft prefer sailing between the coral reefs, as the sea being less agitated, permits them often for many miles to make the best of every favorable breeze, and in case a storm should arise, havens are close at hand. On the other hand, they lose also in speed as they have to follow the windings of the coast, and in case of a contrary wind they can make but little progress by tacking. The depth of the water on the outer edge of the reefs is, generally, the greater the more distant these are from the shore, and sometimes even close to it, the bottom cannot be fathomed.

During a stay of seven months at Tor, I became well acquainted with the fisherman Maallem Ansaree, (Master Ansaree,) a very respectable and experienced old man, who was afterwards created presbyter of the little place. He has an excellent fishing apparatus, and I induced him to measure the bottom of the sea a second time. At some of his experiments I myself was present in his boat. The flat top of the coral reef which forms the haven of Tor is longer than broad, and is covered in the winter at low water with four feet and at high water with eight feet, but in summer at low water often with eight feet and at high water with twelve feet of water. It is obvious that the bottom is formed by a rock running from the northern end of the Bay in a southerly direction, because on that spot near the fort a modern limestone (*Tertiary*) is found which also forms the edge of the coral bank. The haven or the sea within the reef towards the land, has in its greatest depth eight to nine fathoms of water. The reef is about three times as long as wide, has a gradual and no rapid fall towards the land, but its declivity towards the sea is generally very abrupt, and at a short distance the water is 50 fathoms deep. The reef falls in an oblique direction towards the shore, but there is no ridge on the side towards the sea, but above down to the middle there is a flat tabular plain, and although on the side towards the sea the depth of the water increases rapidly, still its declivity is not perpendicular. Near the southern point of the reef there is a heap of loose stones and fragments of coral, which rises above the surface of the water and serves instead of an artificial beacon.

Of the influence of Geological relations upon the Isles and Coral Banks of the Red Sea.

Wherever in modern times, a strict examination has been instituted, there it has been found, that the most intimate connection existed between the islands and the coral reefs, and this we found to be the case in the Red Sea. The whole of the coral reefs examined by ourselves, without one exception, owe their peculiar shape, not merely to the small petrifying animals which we call corals, but more particularly to the geological conditions of the coast and the bottom of the sea. We noticed every where, except where sand, corals and depth of water rendered all observation impossible, that the basis of all risings from the bottom of the sea, which, when islands were covered with sand, or when coral banks

with corals, consisted either of a volcanic product or of a very hard, and sometimes a soft porous limestone, which was evidently formed from cemented fragments of small animals, but whose special ingredients it was impossible to determine. It was evident that these rocks had no direct connection with the shells and corals which lived upon them.

I describe first the islands of volcanic rock. We touched only at two islands which were evidently called into existence by volcanic activity, namely at the Arabian island Ketumbul in the southern part of the Red Sea, between Camfuda and Gisan. The whole is one indented conic rock consisting of lava which is partly decayed, and appears to have formed the northern edge of a submarine crater which has long been extinguished. The other island we visited was the Abyssinian island Huakel, which is situated still more to the south and contains mountains. I examined them only on the north-west side; they consisted of rock something like burnt jasper without lava or basalt. From both I have brought specimens of rock. Ketumbul rises about 300 feet, and Huakel 150, from the level of the sea. Both are encircled by corals which do not appear to participate in the peculiarities of these islands. From a distance we noticed the volcanic island Gebel Taer or Sebahn, which is a mountain of inconsiderable height (only about 150 feet) without any distinguishing mark. Its centre rises in a peak sloping gradually on the west and north side. There are no other volcanic islands in the Red Sea, nearly the whole extent of which we have examined.

The more lofty islands were formed of a very white limestone or lime-tuff, which we found sometimes hard and sometimes porous, or of a tertiary sandstone; the former sometimes in strata as upon the islands Barkan and Sanafer in the north, and Cameran, Belhosse, Dhalac, Mas-sava and Farsan in the south of the Red Sea. Tiran the largest of these islands is situated at the entrance of the bay of Akaba, and consists of a singular and fantastic rock. The greatest mountain on the island is barren and very perpendicular towards the sea, rising about 800 feet. It contains a field of gypsum, covered with a coating of gypsum like Berg-mähl, * which is found sometimes in very large masses, and sometimes in the form of a cracked and very soft crust, which gives no firm footing but crumbles into white powder. On the side towards the shore it is accessi-

* Mountain Meal.

ble and not very perpendicular. I managed to climb it as far as the middle, but on account of the rock being so soft I found it a difficult and rather dangerous task. The lower part of it is a conglomerate of sandstone, and on the east side there are very hard rocks of a tertiary compact limestone.

Respecting the numerous small and flat islands which scarcely appear above the surface of the sea, and which seem so very much like the coral banks, we found that many of those which we visited had a foundation of a very hard rock, which is almost constantly under water, while the upper parts of the islands were more or less elevated sand hills. We noticed this especially at Reman at the entrance of the bay of Akaba, at Samak north-west of Cumfuda, at Ras Kafil at the same place, at Ormuk and Badie between Loheie and Cameran, and at Sheik Said near Massava. On other islands these rocky places became visible and nearly dry at ebb tide. There is an almost innumerable multitude of similar islands on the Arabian Coast. Many of them we closely inspected; they vary so little in their nature from those we above described, that we did not think it worth the time, the trouble, and the danger always connected with it, to subject them to a particular examination.

I proceed to describe the shape of a few islands. It is for the most part roundish, and they rarely possess creeks; they generally extend in straight lines which meet at angles (forming tongues of land) or they have undulatory outlines, but others are longish; still we did not find the more elevated parts running in a parallelism with the coast, but, as is the case with the double island Hassani and Libbehn, they separate from the coast in right angles, while the submarine rocks which accompany the islands run in an opposite direction. The two groups of islands Farsan and Dhalac, appeared to me remarkable; they lie opposite each other and almost in the same latitude in the southern part of the Red Sea, but they are low and probably consist of a number of small islands round a larger, without the least vestige of volcanic rock. Again there are three islands which have a semicircular or horse shoe-like shape, caused by deep inlets. Sanafer at the entrance of the bay of Akaba and Badie not far from Cameran in the south, together with Havakel on the Abyssinian coast appear to be the only ones which approach the shape of a ring. Perhaps the lava island Ketumbul may be counted among them, if a few small rocks which are in the neighborhood are taken into the landscape. The

two last mentioned islands evidently contain volcanic rocks, and we therefore need not wonder at their kettle like shape, which rather confirms the opinion that they have been formed by volcanoes; but with regard to the islands of Sanafer and Badie, this shape alone certainly does not authorise us to infer that they owe their existence to similar causes. They do not contain the least trace of volcanic rock, although Badie on account of the small quantity of land, has a remarkable shape not very unlike that of a ring. I walked all over it and saw in some places, at ebb tide, the flat limestone which is here so generally met with, but no other mineral; the plain which is raised and convex, is covered with driftsand and fragments of the same decayed limestone. Sanafer has only one deep bay running from south to north, and the limestone rocks are more lofty and are divided into two groups with gradual declivities of decayed rock, without any other characteristic. If the number of circular islands in the Pacific were not greater, it is not likely that travellers would have been struck with the shape, and laid it down as a rule for the formation of islands and coral banks, and if their volcanic character were not evident, modern travellers would not have expressed themselves so decidedly in favor of it, as a different opinion was then generally prevailing.

The limestone of the flat and small islands which are often encircled by a comparatively very broad margin of submarine corals, differs not from that of the more lofty islands. It is often evidently nothing but cemented and hardened sand. The colour of this mineral under water, or a little above it, was generally ash-grey or blackish, but on all the somewhat higher islands, or even on those which were only a few feet above the surface of the water, the colour was brilliant, white and chalky. Sometimes horizontal stripes were seen in it, which seem to indicate a deposit from the water. I have deposited a specimen of this rock in the king of Prussia's Museum of Minerals. The larger islands Farsan, Dhalac and Cameran, * consist entirely of this rock and a layer of driftsand, with a small quantity of mould. This rock loosened in flat slabs from rocky banks which are quite flooded only at high tide or from submarine coral reefs, which are never free from water, were covered with corals

* This description of Cameran is not very clear or accurate; that island consists of a mass of recent shells of all sizes and of corals cemented into a hard rock, which rests on a red argillaceous limestone with small shells. *Edit.*

but were by no means corals themselves. But these stones were often, even when of a thin flat shape, so hard that nothing could break them but continual and forcible blows of a hammer. But the rocks exposed to air and sun, though in their nature the same and connected with those described above, were generally very soft, or had retained their hardness only in a few places. The water has sometimes washed out these limestone rocks so that they are perforated like a net and have very sharp corners, which together with the dark colour makes them look like lava-stones, though this is not the case. On fracture the white colour is seen, and the fine fragments of shells, &c. clearly show their real nature, but large petrifications are very rarely found in them.

There is another characteristic connected with the formation of islands in the Red Sea, which is not without influence upon the formation of coral reefs. All islands which stood as firm rocks out of the sea, had no prominent coral banks on the sea side, but however different their geological character was, they were all perpendicular on the sea side, and on the land side there was a flat elevated piece of land annexed to it, around which corals formed a broad margin. This is the case with the island Tiran, which is formed of tertiary rock; this is the case with the lava island Ketumbul; this also is the case with the islands Barkan, Sanafer, Hassani and Belhosse which are formed of "limituff." The flat sandy pieces of land of the former islands runs north-east in the direction of Arabia, but those of Belhosse run south-west in the direction of Africa. This seems to show that the sea, which is comparatively deep in the north-easterly direction has completely washed away the upper part of the island, as far as the rock, which protects, as it were the other flat part of the island to a certain distance. Such appearances should not be regarded as unimportant when the question is about the formation of coral reefs, as they show in a striking manner that their formation may vary considerably. With regard to the accumulation of sand, I could not help comparing these appendixes of the Arabian islands with the sand fields attached to the Abyssinian rocks, which I have described in my pamphlet on the character of the African deserts. Just as in the Abyssinian deserts, the prevailing north wind causes the sand to accumulate in the southern part of the mountainous regions, so is the effect of the waves of the Red Sea, which cause the sand to accumulate behind the island, i. e. turned away from the prevailing breakers, as in the above case from the direc-

work of the individual animal and his family. The case of these corals is similar to that of dead plants and trees. The former do not actually increase the quantity of mould, nor the latter of decayed wood to the whole height of their bulk so that new generations would grow upon the old ones. A few feet of mould indicate thousands of years and of extinguished generations : just so a few inconsiderable marks would show that hundreds of years had been required to increase the height of coral reefs. Besides I am inclined to believe, that coral animals rather contribute to the protection and preservation of the islands than to their growth.

From accurate observation of individual coral animals, I have come to the conclusion, that every single coral branch is neither an individual animal whose life has a certain central point, nor a common dwelling for a number of animals whose age and decay could bring sudden destruction upon all. In both cases it would be possible that a coral branch should suddenly lose his common life and appear like a dead tree. This is contrary to what I have experienced, and consequently all that has been inferred from it is incorrect. The coral branch forms a whole, bound together by knots according to certain laws, whose parts are a great number of organic individual animals, which cannot separate themselves at will, but are connected together by parts not essential to their individual life. The blossoms of a tree are similar to a coral family in appearance, but in their nature there is a great and marked difference between the inseparate life of the individual blossoms on a tree, and the perfectly separate organic life of the flower-like animals in corals. Every individual animal blossoms in its perfect state, and in the event of a forcible separation can lose all the remaining parts of his family structure, and by the development of eggs and formation of knots become the author of a new structure. The stem of the plant is an essential part of the blossom, which, if severed from it, would fade and die, and on the other hand the blossoms are not essential parts of the stem, the life of which would not be destroyed in case of their being forcibly separated from it. But the life of coral animals is never destroyed when the stem is broken and separated, and the individual animals can continue to exist and propagate as was proved long ago by the excellent remarks of Cavolini, and as my observations of the anomalous forms wherever the coral branches were broken, have confirmed again and again. This is the reason why it is

almost impossible to destroy live corals when under water, except when they are loose and tossed about by the waves, which injure all the individual animals, either by grinding or violently knocking them against the sand; or except when they are by an extraordinary accident suddenly and completely covered with sand, or left dry by the retreating waters, or are boiled by volcanic heat. These observations and inferences render it probable, that the opinion so frequently entertained that coral animals die in whole generations, in order that other generations may grow upon their ruins, is not according to nature, and therefore I cannot adopt it.

Here I must not omit mentioning a few other things respecting the nature of the coral animals which are by no means unimportant. I noticed upon the coral reefs of the Red Sea immense blocks of living *maeandra* and *fabia*. I could not examine them as they were too large to be removed, and as I was several times unsuccessful in my endeavors to knock off a piece under water, although I exerted myself to the utmost, and called in the assistance of the natives. I could easily believe, that Pharaoh might have seen them, that they were ancient monuments of thousands of years standing, and of generations still more remote; for many of them measured more than a fathom and some $1\frac{1}{2}$ fathoms in diameter, which considering that they are nearly as round as a ball will make them immensely large masses. *

* According to Monsieur de Blainville, (*Dict. des Sciences Naturelles*, Zoophytes p. 94) Forskal is said to have met with still larger coral blocks namely of 25 cubic-feet, but this is an error. Monsieur de Blainville translates l'on en Sire des blocs, qui ont vingt—cine pïedes at qui ne content cependant qu'une piastre caet, but Forskal says pag. 131, Lapides 25 pedem (unum) cubicum aequantes et a littore transvecti (,) emuntur uno piastro reliq.

But it appears that Forster has seen the largest coral blocks. Adalb. de Chamisso mentions p. 187, blocks of coral often one fathom long and from three to four feet thick, but Forster speaks distinctly of coral branches upon Tortoise island, which are dead, and have been raised by volcanoes above the surface of the water, measuring fifteen feet wide. Forster's travel p. 125. Perhaps *Heteropora Palmata* is sometimes so large. I do not recollect to have seen them larger than nine feet in diameter, and those were *Daedalina*. *Madreporina* were only from four to five feet in diameter. Shaw says that he has seen pyramidal *Heteropora* near Tor, from eight to ten feet high, but I believe that he was deceived by the depth of water: *Voyage dans le Levant II*, p. 86. These colossal forms of the *Daedalina*, which are the most interesting of the species, remain frequently quite unnoticed, because it is impossible to get at them for the purpose of examination. I myself believe that I was obliged to leave unnoticed many particular species, perhaps genera, of them.

These coral banks which are undoubtedly very ancient, frequently formed on the outer edge of the coral reefs the uppermost masses, and prove, as it appears to me, that in the whole time which was requisite for their growth, the coral reef had not risen higher, as no succeeding generation of its species has covered them. It is very probable that the original stock continues to live in gigantic *family mansions*; as I at least convinced myself, that in very considerable blocks the inner regularly built and deserted chambers of the more concave stars, as for instance the *Astraea dipsacea*, reach down as far as the middle of the basis, whilst more flat stars drive themselves between these at acute angles, and thus prove them to be of a later date. I noticed sometimes in such large blocks a few curious hollow places which may have been caused by injuries and the death of individual animals, but sometimes such hollow places were again covered by knots of the next animals and anew called to life.

I am convinced that only this individual aggrandizement of the coral stock, or this extension of family can be called growth of the coral reefs of the Red Sea. The loose structure of the branchy heteropora, madrepora and millepora cause these species to be less regular and at a certain height they become less productive, especially in the formation of cells, as old trees grow more slowly than young ones. Perhaps the remotest generations of the gigantic Heteropora (madrepore) palmata of the Indian Ocean may be found in a quiet colossal whole, which remained undisturbed for thousands of years.

Farther, in the nature of the coral animals there appears to be something very unfavorable to parasitic forms of their own class. The largest coral stems, however old they may be, are free from all parasites of their own species, although they are often bored and molested by balana and annulata, and sometimes also by bivalve shells. I do not recollect to have seen a single instance where a live coral in the midst of another living coral stem has developed itself; therefore in museums the largest and most beautiful specimens of maeandra, peteropora, pocillopora, &c. may be seen in their perfect state. This unfriendly nature of the coral animals is certainly not a small objection to the opinion, that accumulated generations of them form islands in the Indian Ocean, as nothing of the kind takes place in the Red Sea.

If I express in a few words the general impression, which the observation of the influence of the coral animals upon the formation of islands in the Red Sea has left upon my mind, it is this; that there is not a single

island in a state of growth, but that all are in a state of decay, and that consequently the corals do not promote the growth of the island but serve only as borders and covers to the submarine rock. Thus it appears that the corals do only delay or hinder the total destruction of the islands by waves, but do not produce new ones. To this may be attributed the opinion that coral animals build as high as the surface of the water; for I think that the corals only prevent the islands which are sunk and in a state of decay below the water, from sinking still deeper.

Concerning the formation of the fossil coral strata which are sometimes of an immense size, it is not probable that they are the work of these animals, but merely an aggregation of masses which have decayed after the death of the animals; for no where does such a stratum appear to be a compact, well preserved, coral reef. They are thus formed: The waves wash fragments of coral from the reefs and accumulate them in deep basins until they form thick strata; volcanoes may have raised these strata here and there, as it sometimes happens with shell fragments, and as they have raised whole coral banks of evidently a single layer high above the sea and this in good preservation, as described by Forster and Vancouver.

Historical sketch connected with the growth of Coral Reefs in the Red Sea.

As mention is often made of the growth of coral reefs, and in the Indian Ocean whole Archipelagos and thousands of coral reefs are believed to be built by coral animals, and finished by winds and waves, so also it is true that navigators and the inhabitants of sea ports in the Red Sea, talk of coral reefs growing and havens and straits becoming narrower. My experience respecting this matter is as follows. In Tor, where the south end of the coral reef which forms the haven, was marked by a small heap of stones, I was assured by the old navigator Maallem Ansari, as well as by the oldest man in the small Greek colony, who soon after died, that during their life time, of which the latter who was about 60 years of age, remembered full 50 years, that neither had the signal altered nor the coral reef grown higher, nor had any family tradition to this effect been handed down. I have also turned over the oldest accounts of sea-faring men respecting this very simple port, and found that a description of it given by the Portuguese Don Juan de Castro in the year 1541, coincides so fully with my own observations in the year 1823, that I am inclined to believe that the coral animals have not exercised

any considerable influence in that spot, although a space of nearly 300 years have since elapsed, and every opportunity and accommodation is afforded at Tor to the increase of these animals.

In the same way, the description given at that time of the anchorage of Cosseir which has also nothing peculiar, agrees fully with its form as seen by ourselves at the present time. I also find the description given by de Castro of the three islands near Massava, on the Abyssinian coast, and of the Port of Massava fully applicable to their present form and condition. I will not conceal that when I was at Djedda, the inhabitants of the place bitterly complained of the encroachment made by the corals, which were blocking up the port; also that I found it difficult, because of its complicated form, to compare historical accounts; but at the same time while I do not doubt the fact, I am rather inclined to ascribe it to the encroachment of sand and the inconsiderate throwing over board of ballast which generally consists of coral blocks, and which is constantly done with impunity. The remarks which Forskal makes respecting the increase of land on the Arabian coast and near Suez, agree with the opinion of sand being accumulated. Near Suez there is no doubt that this is the case.

ART. VIII. — *On the occurrence of Quicksilver in the Lava Rocks of Aden.* By J. P. MALCOLMSON, M. D., Bombay Medical Establishment.

TO J. G. MALCOLMSON, Esq.

Secretary R. A. S. &c., Bombay.

Dear Sir, — I have the pleasure of forwarding to you a specimen of a stone containing quicksilver in its metallic state. The stone was found at Aden about fifteen feet below the surface, about two hundred yards from the beach, by the workmen who were employed in making a road from thence through the centre of the projected new cantonments. You will observe that globules of the metal are deposited on the surface, adhering pretty strongly to what seems a coating of carbonate of lime; this would at first view lead to the conclusion that the mercury had been accidentally lodged there. On further examination with a glass it will, however, be found that small globules are also thickly disseminated in the interior of the stone,—almost every cell containing the metal adhering to its side. This induces me to believe that the mercury is not a foreign deposit, but

has been secreted or separated from the stone, as other metals are supposed to have been. The stone is lava, and a large quantity of a similar description is found in the hills above the town.

It is a subject of some interest to have this specimen fully and minutely examined, it being a very unusual circumstance to find quicksilver in lava or in rocks which are supposed to be of an igneous origin. Its usual habitat being sandstone, slate, sand, &c.

I shall feel much obliged if you will examine and let me know your opinion regarding the specimen, which is quite at your disposal to use as you think proper.

Believe me to be,

Dear Sir, yours very truly,

JOHN MALCOLMSON, *Asst. Surg.*

Bombay, 24th August, 1843.

Bombay Establishment.

NOTE BY THE SECRETARY.

The occurrence of native mercury in the volcanic rocks of Aden was first noticed by my friend and namesake Dr. J. P. Malcolmson of the Bombay Army, in an official report, an abstract of which was published in the Bombay Times. A short time after the appearance of this notice, an anonymous correspondent of that paper, stated that the quicksilver had found its way accidentally into the porous stones near the harbour, and that Dr. M. should have been aware of this.

When Dr. M. was in Bombay, he presented, at my request, some specimens of the rock to the Museum of the Asiatic Society, with the above account of the locality from which they were procured. From that statement it does not seem probable that the mercury could have been accidentally introduced; still, as Dr. M. has returned to the spot, he should endeavour to place his interesting discovery beyond the reach of doubt.

The rock certainly does contain a little native mercury, which runs out on its being broken. There are however brilliant metallic looking particles which are nothing more than crystals of glassy felspar; and a white coating in some of the cavities which resembles horn mercury, is perhaps a variety of hyalite.

From the extensive mobility of this metal in its metallic state, there is very little prospect of its being found at Aden in sufficient quantity to justify attempts at working it, even should it be found in a greater quantity than it has yet been.

It does not appear at all improbable, that mercury should be found in a porous volcanic rock such as that of which a great part of the south-western corner of Arabia is composed.

The granites of Peyrot in France are said to be impregnated with native mercury, and in the following extract from a paper read before the Academy of Sciences of Paris on the 12th June last, it will be seen, that M. Leymerie ascribes to a similar source the native mercury discovered in the *detrital* or tertiary clays, resting on the *Jura* limestone of *Larzac*, and also near Montpellier, where it was known to the peasants from the death of trees whose roots penetrate into it.

“Il suffit de se rappeler à cet égard qu'à diverses époques, depuis le dépôt et la consolidation du terrain jurassique qui constitue le Larzac et une partie des Cévennes, la région dont il est question a été soumise à l'influence des actions souterraines, qui ont produit le soulèvement de plusieurs chaînes de montagnes. Dès lors, on conçoit sans peine qu'à une de ces époques, des bouffées mercurielles provenant directement des profondeurs du globe, ou que l'on peut encore attribuer à une distillation de gîtes déjà existant dans les terrains anciens qui supportent les couches secondaires du midi, ont pu venir pénétrer la masse préalablement crevassée et fissurée du Larzac, et ensuite s'y condenser. La plus grande partie du métal parvenu à travers les marnes jusque dans les calcaires aura bientôt coulé de fissure en fissure, jusqu'à la première couche marneuse qui, dans le plus grand nombre des cas, devait être capable de le retenir. Ensuite, ce mercure sera venu au jour avec une portion de celui contenu dans les marnes elles-mêmes, entre les tranches des couches qui composent le talus occidental du Larzac, où il a pu être poussé en partie, par exemple, par l'eau des cources si vives et si fréquentes le long de la ligne de contact des assises calcaire et marneuse. Quant au mercure signalé à la partie supérieure des marnes tertiaires de Montpellier, on peut faire deux hypothèses. Il peut résulter d'une action directe de l'intérieur à l'extérieur, comme celui du Larzac, et la présence du calomel natif semblerait le faire croire, et alors nous serions conduits à rapporter le phénomène à l'époque du dernier soulèvement des Alpes, lequel a exercé, comme on sait, une certaine influence sur les terrains du S. de la France, où il s'est manifesté, notamment dans les Corbières et dans les Pyrénées, par l'apparition des ophites. On pourrait, en second lieu, supposer que le mercure de Montpellier aurait coulé après coup à une époque assez récente du terrain jurassique des Cévennes dans les sables, et,

par suite, dans la surface des marnes qui forment le sol fondamental de cette ville, et alors on pourrait faire reculer l'introduction des minerais mercuriels dans le Larzac jusqu'à une époque plus ou moins ancienne. et la rapporter par exemple au soulèvement de la Côte-d'Or, qui s'est fait ressentir d'une manière si prononcée dans le massif jurassique dont il est question".....*L'Institut*. 15th June 1843: Page 196.

JOHN GRANT MALCOLMSON.

ART. — IX. *Note on a Set of Specimens from Aden.* Presented to the Museum. BY G. BUIST, LL. D.

These specimens were partly collected by Captain Yeadell of the Artillery, and other officers of the Garrison,—partly by myself in April 1840.

The glassy slag or obsidian is not of frequent occurrence; it appears in veins or streams running down from the summits of the volcanic peaks, like recently indurated lava. Near the cantonments these present fantastic and beautiful appearances, — the torrent of melted matter seeming to have encountered numerous obstructions in its course, and to have been split into a variety of cascades, — just as we see exemplified in cataracts, whose descent is not perpendicular, where the water has encountered breaks and irregularities of surface.

The greater part of the rocks of the Peninsula of Aden are more or less vesicular, presenting an amygdoloidal structure. Calcedony, such as that presented, is of abundant occurrence.

The volcanic ashes were found on the summit of the hill near Steamer Point, about 500 feet above the level of the sea: they were just under the surface, and occasionally mixed with shells.* They bear no resemblance whatever to the driftsand to be seen in abundance at the bottom of the rocks.

Decayed shells such as are herewith sent †, are scattered every where over the hills near Steamer Point, to a height of at least 500 feet: the leisure of a single morning permitted no further examination. I was at first disposed to have believed that they must have been carried there by birds or wild animals for the sake of the Mollusk. The uniformity of their distribution was hostile to this view; and the extreme but perfectly uniform

* These consist of a species of Pupa, a land shell. — *Edit.*

* *Murex Inflatus*, a common shell on the coast. — *Edit.*

state of decay in which they were found led to the conjecture, that most probably they were elevated from the bottom of the sea, at the time the volcano itself emerged from it. The Peninsula of Aden, it must be recollected, corresponds, in form and magnitude, very closely with a section of one fourth or so of the upper portion of mount *Ætna*. The Sicilian volcano is 10,000, the Arabian one about 2,000, feet in altitude.

The cone of the former which includes the crater is about 1,100 feet, the interior of the crater about 600, in altitude. Aden as now reached may be regarded as a cone altogether; the circumference of sheet measured along the ridge of the Shum Shum range, is about four miles, that of *Ætna* very nearly the same.

Considering the length of time Aden has been occupied by our troops, and the abundance of leisure which the officers must enjoy, it is singular that up to this date we should know so little of its natural history. Of its Fauna and Flora, scanty as these are, we literally know nothing; and very little of either its Hydrography, Meteorology, or Geology. A list of questions on these subjects might probably elicit information, which does not seem likely to be spontaneously imparted.

Masses of oyster shells similar to that now sent for exhibition—for I have no duplicate—are strewed in abundance along the beach, some of them of very great magnitude. They appear to have become united while their inhabitants were alive. Masses of cockles are also plentiful; they have obviously been cemented after death by extraneous calcareous matter.

ART. X. — *Note on a Series of Persian Gulf Specimens.* Presented to the Museum. BY G. BUIST, LL. D.

The specimens laid before the Society were collected for me, partly by Commodore Brucks I. N. and in part by Mr. Woosnam, Surgeon in the *Sesostris Steamer*. They are chiefly from the Island of Karrack and the northwestern shores of the Persian Gulf: the precise localities of the greater part of them are unknown to me; but a large tract of coast is said to be composed of the same substances as those on the table.

The salt is not, properly speaking, rock salt, but a mineral found abounding in the crevices and hollows of the rocks where the sea-spray is driven up in high tides or stormy weather, and afterwards evaporated by the sun.*

* This salt is whitish, without the tinge of red so remarkable in rock salt from almost all parts of the world. *Edit.*

The small portion of coral is from the summit of the island of Karrack, which, at the height of 300 or 400 feet above the level of the sea, is said to be entirely composed of this substance. The present specimen appears to be a piece of the ordinary Madropore, which at this moment abounds in these seas. The rocks here seem to be for the most part volcanic. Karrack itself is described, by Dr. Winchester, as composed of coralline sandstone and limestone, plentifully mixed with fossil tubipora. In the limestone are numerous oysters, cockle, limpet and other shells. (Bombay Geographical Transactions, March 1838.) There are no Atolls or Lagoon Islands in the Persian Gulf; and the knowledge of a mass of recent coral, elevated by volcanic agency to such an latitude as the summit of the Island of Karrack, would be a curious addition to the stock of facts collected by Mr. Darwin, on the evidence of alternate subsidence and emergence of rocks in the ocean, furnished by the existence of coral beds, and an important instance of one more of the recent elevations of land in these parts, of which the shores of the Red Sea afford such abundance of examples.

The Selenite is said to be found in thin veins crossing through shells, gravel, and sand, impregnated with saline matter. These statements are given on the authority of gentlemen who have no pretension to Geological knowledge, and are, therefore, to be received with reservation. They are, at the same time, in perfect conformity with appearances presented all along the shores of the Red Sea, especially around the Gulf of Suez. At this last place the appearance of Selenite, such as that now exhibited, invariably indicates the presence of Sodalite, the surface of the ground crisping under the feet like wet soil after a severe frost. In no instance have I found this to fail in the Suez Desert; where the ground was highly saline, sulphate of lime invariably made its appearance in thin veins exfoliating where they cropped out; extending along to the length of from 3 to 20 feet, and seldom penetrating, so far as I could observe, without the means of making any very considerable excavations, more than a few inches into the ground. The veins generally consisted of parallel plates of Selenite, which might be sliced down to any degree of thinness that was desired. On some occasions, but these were of rare occurrence, its structure was fibrous like satin spar, the fibres being nearly transparent and horizontal, at right angles to the axis of the vein.

ART. XI.—*Eclipse of the Sun on the 21st December, 1843 ; as seen from the Observatory, Colaba.* By Dr. BUIST.

In both the Bombay Almanacks for 1843, the time of the commencement of the eclipse is erroneously set down :—the Calendar published at the *Courier* Office gives 7 h. 54 m. as the hour, that of the *Times* 7 h. 26 m., the latter being only a minute wrong. The sun rose bright and fiery at half-past six—the sky was every where cloudless and clear ; not a film of mist or streak of vapour, beyond a slight transparent haze being visible down to the edge of the horizon. In making a fresh adjustment of the instrument, an altitude and azimuth circle 18 inches horizontal, and 12 of vertical diameter, the instant of primary contact was lost by a few seconds ; it appears from calculation to have occurred at 7 h. 25 m. The appearance at first presented was as if a notch had been struck out from the sun's upper limb : the moon itself, the cause of this, being undistinguishable from the surrounding sky. The defective space was almost absolutely black, sharp, and perfectly well defined ; the sky itself was of the deepest tint of blue. As the eclipse proceeded, the moon's disk was faintly illuminated—its figure being discernible, but barely so from the surrounding space. The sun was at no time sufficiently obscured to permit the moon to be examined without the interposition of a shaded glass. No inequality of light was perceptible, nor any spots upon its disk, which was indicated by a faint dimness of appearance barely discernible through a coloured glass. When the eclipse was at its greatest, the visible figure of the sun resembled the moon three days after change, only that its light was infinitely more intense, and its limbs perfectly well defined, without any faintness or irregularity : the cusps were sharp and clear, terminating in the finest points. Professor HENDERSON* states, in reference to the annular eclipse of the 15th May 1836, that “shortly before the formation of the annulus, the cusps were seen to approach and to be broken into several parts. When they were about 30 or 40 degs. from each other, an arch of faint reddish light was seen extending from the one to the other ; this appearance lasted for several sec-

* *Astronomical Observations, made at the Royal Observatory, Edinburgh, for the year 1836.* Published by order of H. M.'s Government.

onds, when suddenly a small detached portion of the sun's limb like a string of beads, with dark intervals, appeared between them. At the dissolution of the annulus similar appearances were noticed in reverse order."

Though the eclipse of Thursday was scarcely of sufficient magnitude to entitle the observer to feel assured that this phenomenon would present itself, it was looked for with the utmost attention, and from the extreme acuteness and prolongation of the cusps, was at one time expected to have made its appearance. The expectation however was not destined to be realized: the sharp thin line of light bordering the moon at the period of greatest obscuration was unbroken to the end. It is somewhat curious, that in observing the total eclipse of the sun, visible in the South of Europe on the 8th July, 1842, Mr. BAILIE, Vice-President of the Astronomical Society, states, that the beads were as distinctly visible as in the annular eclipse seen at Edinburgh in May, 1836—the black string described as generally preceding them not having been apparent;* while Professor AIRY, the Astronomer Royal, in observing the same thing, saw from Turin, "nothing whatever of the beads or other irregularity in either of the extremities of the sun's limb. The cusps were perfectly well defined till they met."†

The observations were made by three parties simultaneously—one with a 46-inch achromatic glass by DOLLAND—a second with a 30-inch glass by GILBERT—and the third with an altitude and azimuth circle of 9-inch radius, and an 18-inch telescope.

Observations were made from 6 till 11 A. M. every ten minutes with the standard barometer, the sympiesometer, DANIEL'S hygrometer—the wet and dry bulb,—the solar and terrestrial radiation, and standard thermometers, as well as with the actinometer. The table detailing these is subjoined; the barometrical readings are given without correction. The following are the general results: The barometer rose between six and eleven from 30.140 to 30.220, uncorrected for temperature. It reached its greatest altitude of 30.223 at forty minutes past ten, about an hour later than its ordinary average. The amount of its fluctuation was pretty nearly the same as is due to the present period of the year: but its actual altitude is considerably greater than it has been any time

* Report of the Astronomical Society, Nov. to Dec. 1842. Published in *Athenaeum*, 7th Jan. 1843; No. 773.

† *Ib.*, 14th Jan., No. 774.

for 20 months past; we have no regular hourly observations anterior to 1st September 1842. It fluctuated considerably betwixt 8 h. 50 m. when it reached a height of 30.202, and 11 h. when it stood at 30.220—having fallen to 30.200 at 9—it rose again, and remained at 30.202 for the next three observations. From half-past nine to 20 minutes from ten, when, as already stated, it reached its maximum of 223, it continued to rise steadily and rapidly, and then, in the course of ten minutes, fell 00.003, and continued, as usual at this hour of the day, to descend till afternoon. The sympiesometer, as it generally does, attained its maximum of 30.62 more than an hour before the barometer culminated; like the other, it fluctuated for a time, rising to the same height as that just named at 9 h. 20 m., 10 h. 10 m., 10 h. 20 m., and 10 h. 30 m., and sinking back again, being from .61 to .63 at the intermediate periods of 10 min. By the system of observing six times every hour for eight hours a day at the culminating periods of these instruments, presently in practice at the Observatory, it is shewn that there is nothing at all unusual in these phenomena, unless the extreme pressure of the atmosphere observable for nearly a week past, and the unusually late hour at which this on Thursday reached its maximum.

The thermometer which, in the shade, was 67.3 at 6 o'clock, had before 8 o'clock risen to 70; at this it continued stationary till 9 o'clock, when it began to rise steadily as usual, but with somewhat greater rapidity—at 11 it stood at 73.7. Much in this case is dependent on the position of the instrument; another, in a somewhat more airy and elevated position than the standard, sunk by nearly two degrees. A black-bulbed thermometer, exposed to the sun, stood, at 7 o'clock, at 85; by 8 it had risen to 113, when it began rapidly to descend, attaining its minimum of 87.8 at 8 h. 50 m. It pursued, with great exactitude, the course of the eclipse, having, by 10 o'clock, risen to 144, and by 11 to 162; the latter of these is to be received with hesitation, from the too great closeness of the position where the instrument was placed permitting an undue accumulation of heat.

The solar-radiation thermometer pursued a totally different law, having stood at nearly the same point at 6 h. as at 10 h.—20°, viz. 62° 2' in the former, and 62° 6' in the latter case: it had fallen to 58° 1' at 10, it recovered after 7, but scarcely rallied from that till $\frac{1}{4}$ from 9. At 11, it had risen to 65° 6'. From 8 to twenty minutes pass 9, the liquid in the actinometer was below zero. The dew point, as indicated by DAN-

REL's hygrometer, receded from 65° to 62.5 , being found at the latter at 6 h. 11 m., and at the former at 9 h. 40 m. The variation in the dampness of the atmosphere as indicated by this, as well as by the wet and dry-bulb thermometers, being extremely small—the latter instrument varying from 4 to 7 of difference, that is, of actual range; it followed with considerable accuracy the progress of the eclipse.

To the ordinary observer, the most remarkable of all the phenomena presented, was the appearance of the landscape around. The more conspicuous stars had mostly set before sunrise, so that there were no means of knowing whether they might or might not have been seen, if in the sky. Objects, particularly white ones, assumed a bluish-green appearance. The sea, especially towards Malabar Point and the entrance of the Harbour, had a strange melancholy hue,—and a large vessel, a few miles off, looked like a spectre ship. The Cathedral tower, Scottish Church steeple, and Colaba buildings seemed the ghosts of what they were by daylight. The atmosphere was peculiarly still, the land-wind having nearly gone to sleep, and the sea-breeze not having been awakened. The sky was so cool and the sun's rays so feeble, that to be out in the air from 8 to 9 uncovered occasioned no inconvenience. Shadows of objects appeared ill-defined and ragged towards the edges: this altered during the progress of the eclipse, the sides of the shadow towards the South and East being first impaired, that to the South and West becoming afterwards affected. The wind was throughout the day peculiarly faint and unrefreshing.

The amount to which light is diminished even in the case of an entire eclipse, generally occasions disappointment. In the total obscuration in July, 1842, already referred to, it was in no case necessary to use a taper to read with, though stars were seen at Turin and other places in the neighbourhood. Dr. HALLEY observes, in reference to the total eclipse which occurred in 1715—the last which was visible in London—that no one saw more than Capella and Aldebaran of the fixed stars. The rapidity with which the iris of the human eye adjusts itself so as to compensate in a great measure for the withdrawal of light, when this is effected gradually, is such that we are scarcely aware of the amount of loss unless by instrumental observation.

Meteorological Observations during the Eclipse of the Sun, 31st December. 1843.

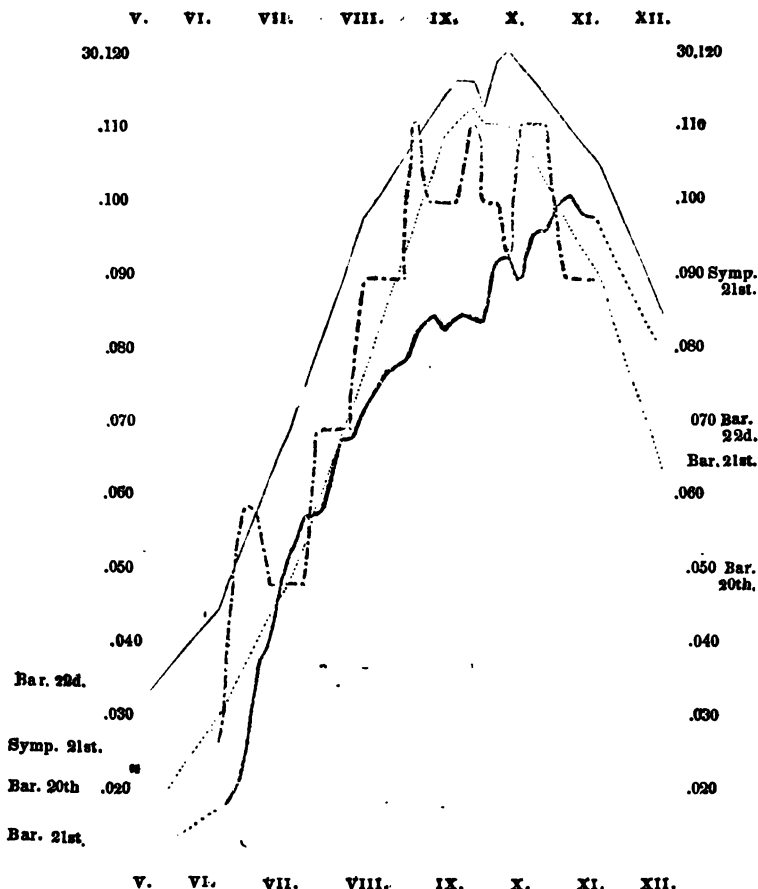
| Bombay Mean Time. | Standard Barometer uncorrected. | | Standard Therm. | Hygrometer. | | Difference. | | Symplecometer. | | Radiation. | | Difference. | | Daniel's Hygrometer. | | Actinometer. | Bombay Mean Time. |
|-------------------|---------------------------------|--------------|-----------------|-------------|-----------|-------------|-------|----------------|-------|------------|--------------|-------------|-----------|----------------------|----------|--------------------|-------------------|
| | Barometer. | Thermometer. | | Dry. | Wet. | | | Str. | Thr. | Solar. | Terrestrial. | | | Dew Point. | Air. | | |
| 6 00 | 30.140 | deg. 72.0 | deg. 69.5 | deg. 69.0 | deg. 65.0 | 4.0 | 30.54 | 70.3 | 74.9 | deg. 62.3 | deg. 19.7 | 19.7 | deg. 65.0 | deg. 70.0 | deg. 4.5 | | 6 00 |
| 10 00 | 30.143 | 72.0 | 69.5 | 69.0 | 66.0 | 4.0 | 56 | 70.3 | 74.4 | 62.3 | 19.1 | 19.1 | 65.0 | 70.0 | 5.0 | | 10 00 |
| 20 00 | 30.150 | 71.9 | 69.3 | 68.6 | 64.4 | 4.2 | 57 | 70.3 | 71.0 | 62.3 | 19.1 | 19.1 | 64.0 | 70.0 | 6.0 | | 20 00 |
| 30 00 | 30.156 | 71.7 | 69.3 | 68.8 | 64.6 | 4.2 | 57 | 69.9 | 70.0 | 62.3 | 19.1 | 19.1 | 63.5 | 70.0 | 6.5 | | 30 00 |
| 40 00 | 30.160 | 71.6 | 69.3 | 68.8 | 64.6 | 4.2 | 56 | 69.9 | 71.0 | 62.3 | 19.1 | 19.1 | 63.5 | 69.7 | 7.1 | | 40 00 |
| 50 00 | 30.167 | 71.6 | 69.3 | 68.7 | 64.0 | 4.7 | 56 | 69.7 | 71.1 | 62.3 | 19.1 | 19.1 | 61.8 | 69.9 | 8.1 | | 50 00 |
| 7 00 | 30.171 | 71.6 | 69.3 | 68.7 | 64.0 | 4.9 | 56 | 69.5 | 71.1 | 62.3 | 19.1 | 19.1 | 61.8 | 69.9 | 8.1 | | 7 00 |
| 10 00 | 30.175 | 71.5 | 69.3 | 68.8 | 63.8 | 5.5 | 56 | 69.7 | 71.1 | 62.3 | 19.1 | 19.1 | 62.0 | 70.0 | 8.0 | 22.31 | 10 00 |
| 20 00 | 30.176 | 71.5 | 69.3 | 68.9 | 63.5 | 5.5 | 58 | 69.8 | 70.5 | 62.3 | 19.1 | 19.1 | 63.0 | 70.1 | 7.1 | 20.02 | 20 00 |
| 30 00 | 30.181 | 71.5 | 69.5 | 69.0 | 63.9 | 5.1 | 58 | 69.8 | 70.5 | 62.3 | 19.1 | 19.1 | 63.5 | 70.4 | 7.2 | 21.88 | 30 00 |
| 40 00 | 30.186 | 71.5 | 69.5 | 69.0 | 64.0 | 5.0 | 58 | 69.8 | 70.5 | 62.3 | 19.1 | 19.1 | 63.5 | 70.4 | 7.2 | 22.61 | 40 00 |
| 50 00 | 30.186 | 71.5 | 69.5 | 69.0 | 64.1 | 5.5 | 58 | 70.1 | 71.3 | 62.3 | 19.1 | 19.1 | 63.5 | 70.6 | 7.7 | 23.71 | 50 00 |
| 8 00 | 30.190 | 71.7 | 70.2 | 69.6 | 64.0 | 5.6 | 59 | 70.3 | 71.3 | 62.3 | 19.1 | 19.1 | 63.5 | 70.8 | 8.0 | 17.63 | 8 00 |
| 10 00 | 30.192 | 70.5 | 70.5 | 69.3 | 63.0 | 6.2 | 60 | 70.3 | 70.5 | 62.3 | 19.1 | 19.1 | 63.0 | 70.5 | 7.5 | Liquid below Zero. | 10 00 |
| 20 00 | 30.195 | 71.5 | 70.5 | 70.4 | 63.0 | 6.4 | 60 | 70.7 | 70.7 | 62.3 | 19.1 | 19.1 | 63.0 | 70.5 | 7.1 | 4.0 | 20 00 |
| 30 00 | 30.196 | 71.5 | 70.5 | 69.0 | 63.0 | 6.4 | 60 | 70.7 | 70.7 | 62.3 | 19.1 | 19.1 | 63.5 | 70.5 | 7.1 | 4.0 | 30 00 |
| 40 00 | 30.200 | 71.5 | 70.4 | 69.0 | 62.5 | 4.0 | 62 | 70.5 | 69.7 | 62.3 | 19.1 | 19.1 | 64.4 | 70.5 | 6.3 | 4.0 | 40 00 |
| 50 00 | 30.202 | 71.5 | 70.5 | 70.3 | 66.1 | 4.0 | 61 | 70.7 | 69.7 | 62.3 | 19.1 | 19.1 | 64.4 | 70.5 | 6.1 | 4.0 | 50 00 |
| 9 00 | 30.202 | 71.5 | 70.5 | 70.3 | 66.1 | 4.2 | 61 | 70.8 | 70.3 | 62.3 | 19.1 | 19.1 | 64.4 | 70.8 | 7.1 | 4.0 | 9 00 |
| 10 00 | 30.202 | 71.5 | 70.5 | 70.5 | 66.1 | 4.6 | 61 | 71.0 | 69.3 | 62.3 | 19.1 | 19.1 | 65.5 | 71.4 | 5.9 | 4.0 | 10 00 |
| 20 00 | 30.202 | 71.5 | 70.9 | 70.6 | 66.0 | 4.6 | 62 | 71.1 | 106.8 | 60.5 | 66.2 | 66.2 | 64.0 | 71.7 | 7.7 | 14.84 | 20 00 |
| 30 00 | 30.202 | 71.3 | 71.3 | 71.3 | 66.0 | 5.0 | 61 | 71.3 | 106.8 | 60.5 | 66.2 | 66.2 | 64.0 | 72.3 | 8.0 | 20.95 | 30 00 |
| 40 00 | 30.210 | 71.3 | 71.3 | 71.3 | 65.9 | 5.1 | 61 | 71.3 | 106.8 | 60.5 | 66.5 | 66.5 | 64.4 | 72.3 | 8.8 | 25.30 | 40 00 |
| 50 00 | 30.212 | 71.3 | 71.3 | 71.3 | 65.9 | 6.1 | 62 | 71.3 | 106.8 | 60.5 | 66.5 | 66.5 | 64.4 | 72.3 | 8.8 | 30.11 | 50 00 |
| 10 00 | 30.216 | 71.3 | 72.3 | 72.3 | 65.1 | 6.2 | 62 | 72.0 | 141.1 | 61.3 | 66.5 | 66.5 | 62.9 | 72.3 | 10.3 | 33.17 | 10 00 |
| 20 00 | 30.216 | 72.3 | 72.3 | 72.3 | 66.3 | 6.3 | 62 | 72.0 | 141.1 | 61.3 | 66.5 | 66.5 | 62.9 | 72.3 | 9.6 | 34.56 | 20 00 |
| 30 00 | 30.220 | 72.0 | 72.3 | 72.3 | 66.3 | 6.3 | 62 | 72.0 | 141.1 | 61.3 | 66.5 | 66.5 | 62.9 | 72.3 | 10.9 | 36.90 | 30 00 |
| 40 00 | 30.223 | 72.3 | 72.3 | 72.3 | 66.1 | 7.4 | 61 | 72.3 | 141.1 | 64.1 | 66.5 | 66.5 | 62.0 | 73.9 | 11.9 | 36.63 | 40 00 |
| 50 00 | 30.220 | 72.5 | 73.7 | 74.0 | 66.5 | 7.3 | 60 | 73.5 | 162.3 | 64.7 | 66.5 | 66.5 | 63.7 | 74.2 | 11.0 | 38.81 | 50 00 |
| 11 00 | 30.220 | 73.7 | 74.3 | 74.9 | 61.5 | 7.4 | 60 | 74.3 | 162.3 | 65.6 | 66.5 | 66.5 | 64.4 | 74.7 | 10.3 | 39.70 | 11 00 |

Zenith distance and Azimuth of the Sun and Moon, 21st December, 1843.

| Time. | Object. | Zenith distance. | Azimuth from the North. | Hour. | Wind. | Weather. | Remarks. |
|-------------------|-----------------|------------------|-------------------------|-------------------|--------|--------------------------------------|------------|
| A. M.
M. M. S. | | | | A. M.
H. M. S. | | | |
| 7 24 56 | Eclipse begins. | Deg. Min. | Deg. Min. | 6 0 | E.S.E. | Light Breeze. | Sky Clear. |
| 7 31 56 | Upper Limb. | 77 3 E | 120 43 E. | 0 10 | " | " | " |
| 7 41 15 | Lower Limb. | 75 40 " | " | 0 20 | " | " | " |
| 7 44 15 | " | 74 43 " | 121 02 " | 0 30 | " | Sun rise at 6h. 31m. | " |
| 7 50 21 | " | 73 52 " | 123 30 " | 0 40 | " | " | " |
| 7 58 22 | " | 72 37 " | 123 20 " | 0 50 | " | " | " |
| 8 0 29 | " | 71 53 " | 123 44 " | 1 0 | " | " | " |
| 8 6 3 | " | 70 36 " | 124 48 " | 0 10 | " | " | " |
| 8 10 45 | " | 69 53 " | 125 02 " | 0 20 | " | { Sun eclipsed at 7h. 25m. | " |
| 8 16 10 | " | 68 51 " | 125 45 " | 0 30 | " | " | " |
| 8 20 42 | " | 67 55 " | 126 31 " | 0 | " | { Thick mist in the West. | " |
| 8 30 34 | " | 66 08 " | 127 47 " | 0 50 | " | " | " |
| | | | | 8 0 | E. | " | Sky Clear. |
| 8 41 46 | Upper Limb. | 63 31 " | 129 13 " | 0 10 | " | " | " |
| 8 44 59 | " | 63 00 " | 130 02 " | 0 20 | " | Faint sunshine. | " |
| 8 50 25 | " | 61 58 " | 131 50 " | 0 30 | " | " | " |
| 8 55 50 | " | 61 07 " | 131 45 " | 0 40 | " | { Middle of the E.clipse at 8h. 40m. | " |
| 9 0 50 | " | 60 08 " | 132 33 " | 0 50 | " | Faint sunshine. | " |
| 9 10 25 | " | 58 40 " | 134 12 " | 9 0 | " | " | " |
| 9 20 37 | " | 56 47 " | 136 10 " | 0 10 | " | " | " |
| 9 30 9 | " | 55 33 " | 137 49 " | 0 20 | " | " | " |
| 9 35 6 | " | 54 29 " | 138 52 " | 0 30 | " | " | " |
| 9 40 10 | " | 54 02 " | 139 50 " | 0 40 | " | " | " |
| 9 45 31 | " | 53 15 " | 140 58 " | 0 50 | " | " | " |
| 9 50 1 | " | 52 26 " | " | 10 0 | " | " | " |
| 9 55 24 | " | 51 30 " | 143 28 " | 0 10 | " | Eclipse ends. | " |
| | | | | 0 20 | " | " | " |
| | | | | 0 30 | " | " | " |
| | | | | 0 40 | " | " | " |
| | | | | 0 50 | " | " | " |
| 10 10 41 | Eclipse ends. | | | 11 0 | " | " | " |

§ The precise time of the beginning of the Eclipse could not be observed accurately to a second; therefore the time given may be a few seconds out. The end of the Eclipse has been correctly observed to a second.

Magnetic Observatory, Bombay, 21st December, 1843.



On the diagram the curves of the barometer and sympiesometer on the morning of the eclipse, and that of the former instrument on the day before and after, are laid down to thousandths of an inch—the readings being taken for the 21st, six times an hour throughout, and in like fashion from eight to ten on the 20th and 22d. Before and after this, where the movements are represented by straight lines, the readings are only made once an hour. The curves of the 21st present to the eye at once the singular fact formerly referred to—that of the barometer having continued to rise till within 20 minutes of 11 on the morning of the eclipse—that is, for nearly an hour beyond its ordinary time,—the maximum of the sympiesometer as usual preceding that of the barometer by about 50 minutes. On glancing over the observations made at the observatory since the 1st September, 1842, I am unable to discover that, out of 400 days on which the barometer has been read hourly, this ever

occurred before. My study of them has not been sufficiently careful to enable me to speak positively of the fact; but my impression is, that the rise is, within the period specified, unprecedented. It will be interesting to know whether any thing of a similar nature has ever been noticed at other stations similarly circumstanced. In the table the scale readings of all the instruments, save the actinometer, are given without correction—in the diagram the barometer is corrected for temperature: this has very little bearing on the present occasion on the mere form of the curve, as the thermometer only ranged four degrees in all throughout the entire course of the eclipse.

ART. XII.—*Meteorological Observations.*

The Meteorological report given in the previous number of the Journal consisted of a return of twenty-four hours' consecutive observations made on the term days,—the state of the Observatory in respect of the number of assistants then employed not permitting continuous observations such as to supply the average of the month. The term day observations of July and August 1842, were lost in consequence of the sickness of the only assistant who at that period remained attached to the Observatory. Government having subsequently sanctioned the employment of Native assistants in place of two of the Europeans originally employed, the observations have been carried on without interruption from the 1st September 1842 to the present time, and the abstracts now supplied present the means of the hourly observations for the month,—getting rid of casual variations and furnishing the elements of the mean directions of the barometric curve.

It was stated in the last number of the Journal that the Barometer by which the observations were noted from May to July 1841, was a standard by Adie of Edinburgh, and that its readings were 0.150 higher than the Observatory standard by Newman, subsequently employed, and assumed as correct:—so that in order to reconcile the observations recorded in the first number of the Journal with those subsequently published up to April 1843 (No. V.,) 0.150 must be subtracted from the former or added to the latter. An elaborate series of comparisons with other Barometers made in January 1843, and given at length in the previous part of the number, together with a comparison of the Bombay and Travendrum observations with each other, led to the suspicion that air had been admitted into the tube when the Barometer was originally set

up. The instrument having been taken down and inverted, a bubble was discovered of such magnitude as to elevate the mercury on its re-adjustment 0.100. The tube was not boiled afresh and some slight vesicles still appear to adhere to it; from this circumstance and from the amount of discrepancy still existing between it and the other instruments with which, as already stated, it was compared, the total error appearing to exist in the present return, is .125—They have been given as copied from the Observatory records of scale readings corrected for temperature and capillarity, but it requires the addition of .125 to make them correct. The observations by Adie's instrument given before June 1841, require 0.025 to be subtracted from them to render them correct—the instrument referred to is that marked No. VII. in the list of comparative observations. The returns which may be supplied subsequent to the adjustment of the barometer in June 1843, will require a correction of ± 0.25 only, this will be duly noted on the preface to the tables.

G. BUIST.

Magnetic and Meteorological Observatory, Colaba, mean hourly Observations for September, 1843.

| Bombay
Mean
Time. | Barometer.
Corrected
to 32 Fah. | Stand.
Ther. | Thermometer. | | Differ-
ence. | Remarks. |
|-------------------------|---------------------------------------|-----------------|--------------|------|------------------|---|
| | | | Dry. | Wet. | | |
| A. M. | | | | | | |
| 0.0 | .636 | 80.6 | | 73.8 | 6.8 | This month is generally all cloudy, the sky being scarcely clear, 1-8th. |
| 1.0 | .618 | 80.6 | | 73.8 | 6.8 | |
| 2.0 | .610 | 80.3 | | 74.3 | 6.0 | |
| 3.0 | .603 | 80.2 | | 73.9 | 6.3 | 22d. A squall accompanied with rain and lightning at 2h. 45m. |
| 4.0 | .603 | 80.1 | | 73.7 | 6.4 | 23d. Another at 5 minutes to one A. M. accompanied with rain and distant thunder; ceases at 1h. 15m. A. M. lightning continued in vivid flashes until 10 minutes to 2h. A. M. when all gets calm and wind gentle. |
| 5.0 | .607 | 80.0 | | 73.1 | 6.9 | |
| 6.0 | .628 | 79.5 | | 72.3 | 7.2 | |
| 7.0 | .644 | 79.4 | | 72.8 | 6.6 | 29th. Squall accompanied with rain and lightning. |
| 8.0 | .666 | 80.6 | | 73.4 | 7.2 | |
| 9.0 | .676 | 81.3 | | 73.5 | 7.8 | |
| 10.0 | .676 | 81.8 | | 73.9 | 7.9 | Quantity of rain during the month 9.23. |
| 11.0 | .664 | 82.3 | | 74.2 | 8.1 | |
| 0.0 | .648 | 82.8 | | 74.7 | 8.1 | |
| P. M. | | | | | | |
| 1.0 | .626 | 83.0 | | 74.6 | 8.4 | |
| 2.0 | .603 | 83.3 | | 74.9 | 8.4 | |
| 3.0 | .586 | 83.2 | | 75.8 | 7.4 | |
| 4.0 | .582 | 83.2 | | 76.2 | 7.0 | |
| 5.0 | .587 | 82.5 | | 75.7 | 6.8 | |
| 6.0 | .606 | 81.9 | | 76.0 | 5.9 | |
| 7.0 | .620 | 81.3 | | 76.0 | 5.3 | |
| 8.0 | .632 | 80.4 | | 75.7 | 4.7 | |
| 9.0 | .642 | 80.8 | | 75.2 | 5.6 | |
| 10.0 | .649 | 80.0 | | 74.6 | 5.4 | |
| 11.0 | .644 | 80.6 | | 74.0 | 6.6 | |
| Mean. | 29.626 | 81.3 | | 74.5 | 6.8 | |

Magnetic Observatory, Colaba, mean hourly Observations for October, 1842.

| Bombay
Mean
Time. | Barometer.
Corrected to
32 Fah. | Stand.
Ther. | Thermometer. | | Differ-
ence. | Remarks. |
|-------------------------|---------------------------------------|-----------------|--------------|------|------------------|---|
| | | | Dry. | Wet. | | |
| A. M. | | | | | | |
| 0.0 | 29.733 | 81.6 | | 77.0 | 4.6 | During all the days of this month the proportion of the cloudy to the clear sky, in its mean state, was not more than 3-8ths. |
| 1.0 | .727 | 81.3 | | 76.3 | 4.5 | |
| 2.0 | .790 | 81.2 | | 76.6 | 4.6 | |
| 3.0 | .718 | 80.9 | | 76.5 | 4.4 | |
| 4.0 | .790 | 80.7 | | 76.3 | 4.4 | |
| 5.0 | .728 | 80.6 | | 76.3 | 4.4 | 31st. The lightning struck the H. C. S. Coote, in Bombay Harbour at 8 minutes past 4 A. M., and shivered her foremast from top to bottom; no lives were lost. The thunder seemed more than an hour nearly overhead. |
| 6.0 | .739 | 80.1 | | 75.3 | 4.8 | |
| 7.0 | .763 | 80.2 | | 75.4 | 4.3 | |
| 8.0 | .782 | 81.4 | | 75.6 | 5.8 | |
| 9.0 | .791 | 82.7 | | 76.2 | 6.5 | |
| 10.0 | .791 | 82.9 | | 77.2 | 6.7 | Quantity of rain during the month. Inches 1.63. |
| 11.0 | .771 | 84.6 | | 77.8 | 6.8 | |
| 0.0 | .745 | 86.0 | | 78.1 | 6.9 | |
| P. M. | | | | | | |
| 1.0 | .725 | 85.4 | | 78.1 | 7.3 | <i>General Remarks.</i> —The troubled appearance of the sky and the depression of the Barometer manifested between the 26th and 31st, correspond with the setting in of the Coromandel monsoon, which commenced with a violent hurricane on the 24th day when many ships perished. The Barometer had recovered its unaccustomed level before the severe fall of rain and lightning, which occurred on the 31st. |
| 2.0 | .703 | 85.7 | | 78.6 | 7.1 | |
| 3.0 | .689 | 85.8 | | 79.1 | 6.7 | |
| 4.0 | .686 | 85.8 | | 79.1 | 6.7 | |
| 5.0 | .698 | 86.1 | | 78.6 | 6.5 | |
| 6.0 | .706 | 83.8 | | 78.0 | 5.8 | |
| 7.0 | .725 | 83.2 | | 77.8 | 5.4 | |
| 8.0 | .741 | 82.7 | | 77.6 | 5.1 | |
| 9.0 | .746 | 82.5 | | 77.8 | 4.7 | |
| 10.0 | .747 | 82.3 | | 77.6 | 4.7 | |
| 11.0 | .743 | 82.1 | | 77.5 | 4.6 | |
| Mean. | 29.742 | 82.8 | | 77.4 | 5.4 | |

Magnetic Observatory, Colaba, mean hourly Observations for November, 1842.

| Bombay
Mean
Time. | Barometer.
Corrected to
32 Fah. | Stand.
Ther. | Thermometer. | | Differ-
ence. | Remarks. |
|-------------------------|---------------------------------------|-----------------|--------------|------|------------------|---|
| | | | Dry. | Wet. | | |
| A. M. | | | | | | |
| 0.0 | 29.931 | 80.0 | | 73.8 | 6.2 | During the month, the nights were generally clear, days about 3-8ths cloudy with circo stratus. |
| 1.0 | .918 | 79.8 | | 73.8 | 6.0 | |
| 2.0 | .908 | 79.6 | | 74.2 | 5.4 | |
| 3.0 | .902 | 79.4 | | 73.8 | 5.6 | |
| 4.0 | .903 | 79.1 | | 73.6 | 5.5 | |
| 5.0 | .910 | 79.2 | | 73.0 | 6.2 | From 16th to 19th, the days were all cloudy and light rain fell. |
| 6.0 | .924 | 78.3 | | 72.3 | 6.0 | |
| 7.0 | .940 | 78.4 | | 72.8 | 5.6 | |
| 8.0 | .967 | 80.0 | | 73.3 | 6.7 | |
| 9.0 | .986 | 81.1 | | 73.4 | 7.7 | |
| 10.0 | .985 | 82.3 | | 73.9 | 8.4 | Quantity of rain during the month. Inches 0.38. |
| 11.0 | .972 | 83.1 | | 74.1 | 9.0 | |
| 0.0 | .940 | 83.9 | | 74.8 | 9.1 | |
| P. M. | | | | | | |
| 1.0 | .916 | 94.3 | | 74.6 | 9.7 | <i>General Remarks.</i> In the morning, during the whole of the month, the mean direction of the wind was East by South when it was relieved by the sea breeze from N. W. |
| 2.0 | .896 | 84.7 | | 74.9 | 9.8 | |
| 3.0 | .886 | 85.1 | | 75.8 | 9.3 | |
| 4.0 | .886 | 84.8 | | 76.1 | 8.7 | |
| 5.0 | .894 | 83.9 | | 75.7 | 8.2 | |
| 6.0 | .901 | 82.4 | | 76.0 | 6.4 | |
| 7.0 | .884 | 82.2 | | 76.0 | 6.2 | |
| 8.0 | .939 | 81.8 | | 75.7 | 6.1 | |
| 9.0 | .947 | 81.2 | | 75.0 | 6.2 | |
| 10.0 | .949 | 80.5 | | 74.5 | 6.0 | |
| 11.0 | .940 | 80.3 | | 74.0 | 6.3 | |
| Mean. | 29.927 | 81.4 | | 74.4 | 7.0 | |

Magnetic Observatory, Colaba, mean hourly Observations made during the month of December, 1842.

| Hour. | Barometer.
Corrected to
32 Fah. | Thermo. | Wet
Thermo. | Difference | Remarks. |
|--------------|---------------------------------------|------------|----------------|------------|---|
| <i>A. M.</i> | | <i>° F</i> | <i>° F</i> | <i>° F</i> | |
| 0.0 | 29.839 | 78.2 | 71.8 | 6.4 | During this month, the days and nights were generally clear, only a few circo stratus prevailing.
The days about the 20th and 25th were almost clouded by stratus. |
| 1.0 | .830 | 77.7 | 71.1 | 6.6 | |
| 2.0 | .821 | 77.5 | 72.4 | 5.1 | |
| 3.0 | .812 | 77.0 | 70.7 | 6.3 | |
| 4.0 | .814 | 76.7 | 70.6 | 6.1 | |
| 5.0 | .821 | 76.2 | 70.7 | 5.5 | No rain during the month. |
| 6.0 | .844 | 75.4 | 69.1 | 6.3 | |
| 7.0 | .862 | 75.1 | 69.1 | 6.0 | |
| 8.0 | .889 | 76.6 | 69.7 | 6.9 | |
| 9.0 | .888 | 78.3 | 70.3 | 8.0 | |
| 10.0 | .895 | 79.5 | 70.7 | 8.8 | |
| 11.0 | .879 | 80.8 | 70.5 | 10.3 | |
| 0.0 | .861 | 81.9 | 70.5 | 11.4 | |
| <i>P. M.</i> | | | | | |
| 1.0 | .824 | 82.5 | 71.1 | 11.4 | |
| 2.0 | .798 | 83.0 | 72.4 | 10.6 | |
| 3.0 | .787 | 83.5 | 73.0 | 10.5 | |
| 4.0 | .785 | 83.5 | 73.6 | 9.9 | |
| 5.0 | .786 | 82.7 | 73.6 | 9.1 | |
| 6.0 | .812 | 81.3 | 73.0 | 8.8 | |
| 7.0 | .835 | 80.6 | 72.9 | 7.7 | |
| 8.0 | .849 | 80.0 | 72.8 | 7.2 | |
| 9.0 | .861 | 79.8 | 71.8 | 7.6 | |
| 10.0 | .864 | 78.5 | 71.4 | 7.1 | |
| 11.0 | .845 | 78.3 | 71.6 | 6.7 | |
| Mean. | 29.835 | 79.3 | 71.4 | 7.9 | |

ART. XIII.—*Extracts from the Proceedings of the Society.*

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society held in the Library rooms on Wednesday the 12th July 1843.

The Hon. G. W. Anderson, President, in the Chair.

A large and beautiful Map of the rivers Jud and Haines in North Eastern Africa, lately partially explored by Lieutenant W. Christopher, I. N. was submitted for the inspection of the members by the President.

The Secretary laid on the table a copy of the fifth number of the Society's Journal, and it was resolved to continue the publication in the same form, as papers were received.

The Secretary then intimated that agreeably to the instructions of the Society, a case of Geological Specimens had been packed and were ready for transmission to the Museum of the Economic Geology of India, and that another case was nearly ready for the Museum of the St. Andrew's Society.

The following donations to the Library were then submitted to the meeting.

1. By Government, Copy of 4th Edition of the Law relating to India and the East India Company By Government.
2. By Do. through the Medical Board, Medical Topography of the Presidency Division of the Madras Army.
3. Do. of the Centre Division of the Madras Army.
4. By Lieutenant E. B. Eastwick, Copy of Easy Lessons in Chinese, by S. W. Williams.
5. By the Right Rev. Dr. Whelan, Copy of a work entitled *Aperçu Général sur l' Egypte*, par A. B. Clot-Bey.
6. Vols. 12, 13. and 14 Memoirs of the Royal Astronomical Society of London, from that Society.
7. By the Rev. J. M. Mitchell, in the name of Major T. B. Jervis, A copy of that gentleman's lithographed maps of the Island of Bombay and of the Khanat of Bokhara.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society held in the Library rooms on Wednesday the 9th August, 1843, The Hon. G. W. Anderson, President, in the Chair.

The following papers were read :—

1. Further remarks on silk cultivation in Kattiawar, by Dr. B. A. R. Nicholson, Civil Surgeon, Rajcote.

Resolved, that, with his permission, Dr. Nicholson's paper be forwarded to the Secretary of the Agri-Horticultural Society, for submission to that Society.

2. *A Letter from Ball Gunghadur Shastree Esq. forwarding an Inscription copied from a stone at Nagpore, with a Balbodh transcription and an English translation, together with remarks to illustrate the Genealogy of the Dynasty to which it refers. This Inscription, which is dated in the Samvat year 1161, or A. D. 1105, was received by L. R. Reid Esq. from Major Wilkinson, Resident at Nagpore.

3. *Observations on the Bactrian and Mithraic Coins in the cabinet of the Bombay Branch of the Royal Asiatic Society, by J. Bird Esq.

This paper was illustrated by a copy and translation of an inscription from the cave temples at Nassick.

4. *A Chart of Observations made on nine different Barometers and one Sympiesometer half hourly, for twenty-four successive hours, with remarks, in reference to the state of the weather at Bombay during the present season, by Geo. Buist, Esq LL. D., in charge of the Magnetic Observatory, Bombay.

5. An Introductory Observation to a metrical translation of the first book of the Raghuvánsá, a héroic poem, by Kalidasa; by the Rev. J. M. Mitchell.

6. *A Note accompanying a series of Geological Specimens from Aden collected by the Author, and Captain Yeadell; by Geo. Buist; Esq. LL. D.

7. *A Note accompanying a series of Geological Specimens collected by Commodore Brucks, in the Persian Gulf, by Geo. Buist, Esq. LL. D.

8. *A Translation from the German of the 3rd part of Ehrenberg's celebrated paper on the coral banks of the Red Sea; by the Rev. C. C. Menge, received through the Rev. G. Pigott.

Read a letter from the Secretary to the Geographical Society, dated 25th July, forwarding a further series of specimens of minerals, rocks, shells, &c. for the Museum, agreeably to the resolution of that body dated 6th May, 1841.

The following books were presented to the Library:—

1. Transactions of the Agri-Horticultural Society of Western India, by the Society.

2. Memoire Sur le lac Moeris, printed at Alexandria, by the Egyptian Society, through Messrs. Frith & Co.

3. Four papers on the mineral resources of Southern India, by Captain Newbold, F. R. S. by the Author.

4. Days in the East, a poem, by Lieutenant J. H. Burke, Bombay Engineers, by the Author.

TO THE MUSEUM.

A very valuable collection of minerals and Geological Specimens were presented through the Secretary, by the late Blake 7th. Regt. N. I.

f rock specimens from Aden, the Persian Gulf, Cabool,

and a few fossils from Lower and Upper Scinde, were presented by Dr. G. Buist.

A series of specimens from Egypt were also laid on the table by Dr. Buist.

The Secretary pointed out the form of a fossil crustacean from Scinde, and of those from Egypt, first taken to Europe by him, which would, with other specimens in his possession, go far to prove that the rocks of both these countries were posterior to the formation of the chalk.

At a monthly meeting of the Bombay Branch Royal Asiatic Society held in the Library rooms on Wednesday the 13th September, 1843.

The Hon. G. W. Anderson, President, in the Chair.

M. M. Etieune d'Quatremere, Member of the Institute of France, was proposed as an Honorary Member by Jas. Bird Esq. seconded by Jas. Burnes K. H. and Col. T. Dickinson,

In accordance with Art. ix. of the Regulations, the meeting proceeded to an immediate ballot, when M. M. Etieune d'Quatremere was duly elected.

M. M. Chas. D'Ochoa, was proposed as an Honorary Member by Jas. Burnes K. H. seconded by Jas. Bird Esq. and the Rev. G. Pigott, and duly elected.

* Read a letter from Mr. John Murray, of Albermale street, dated 2nd August, declining to undertake the republication of the Society's Transactions.

The Secretary was instructed to communicate with him or Messrs. Longman & Co. with a view to recover the copper plates.

Read a letter from the Honorary Secretary to the Royal Asiatic Society, stating that the 3rd number of the Society's Journal only had been received.

Duplicate copies were directed to be sent by the first opportunity.

* At the Monthly meeting of the 14th June, the Secretary submitted to the meeting a proposal by Captain LeGrand Jacob that the Society republish many of the valuable papers in the Transactions.

It was resolved that the Secretary be directed to communicate with Messrs Murray & Co. on the subject of republishing the 3 vols. of the Transactions in an octavo size, and that the further consideration of the subject be deferred till their answer is received.

The list of members referred to in this letter, was sent by the June mail.

The following papers were read:—

1. * A letter from J. P. Malcolmson Esq. M. D. of the Bombay Medical Establishment, forwarding a specimen of volcanic rock from Aden, containing metallic mercury, with remarks.

2. * Chemical and microscopic examination of the rock salt of the Punjab, by H. Giraud, Esq. M. D. Bombay Medical Establishment.

The Secretary laid the following donations on the table, from M. M. Chas. D'Ochoa:—

1. Copy "Exercices Pratiques L'Analyse de Syntaxe et de Lexigraphie Chinoise," par S. Julien.

2. "Examen Methodique des faits qui concernent le Thain-Tehn ou L'Inde," par G. Panthier.

3. "Vindicia Sinica. Derniere Réponse a M. S. Julien," par G. Panthier.

4- "Réponse a l'Examen Critique M. S. Julien, Inséré dans le Numéro de Mai 1841. Du Journal Asiatique," par ditto.

The thanks of the Society were voted to the authors of the papers, and to M. M. Chas. D'Ochoa for the works presented by him.

Copies of the "Vispárád" and "Yáqná, lithographed for the Society, were laid on the table, and it was resolved that copies of the work should be presented to the undermentioned Societies.

The Asiatic Society of Bengal.

The Literary Society of Madras.

The King's Library, Paris.

The St. Petersburg Academy of Sciences.

The British Museum.

The Dublin University.

The Asiatic Society, Paris.

The University of Bonn, through Professor Lassen.

The Berlin University Library.

The Royal Asiatic Society.

The Edinburgh University.

* Printed in No. 6, of the Journal.

The University of Leyden.
The Cambridge University, and
The Bodleian Library, Oxford.

It was resolved that copies of the "Vandidad" sent to the Bodleian and Cambridge University Libraries, by two of the members, should be presented in the name of the Society.

The Secretary was directed to present the following works of the Society to Mr. Chas. D'Ochoa:—

A copy of each of the Society's numbers already published, and a copy of the "Vandidad," "Vispárád," and "Yacna," lithographed by the Society.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in the Library rooms on Wednesday the 11th October 1842:—

The Hon. G. W. Anderson, President, in the Chair.

The following papers were read:—

1. On the ruined City of Beejapoor, its Persian inscriptions, and translations of the latter into English. Part. II. By James Bird, Esq.

2. On the derangement of the atmosphere between the tropics which occurred at the period of the late comet's appearance, by Captain C. Giberne, 16th Regiment N. I.

The following donations were made to the Library:—

By Government, Part I. Vol. III. Wight's *Icones Plantarum*.

TO THE MUSEUM.

1. A beautiful collection of minerals from an excavation in the lines of the Sappers and Miners within the Poona cantonments, by Captain F. Wemyss, Engineers, through Colonel Dickinson.

2. A large and beautiful slab of the sulphate of lime, by Col. G. R. Jervis, Engineers.

Laid on the table, a specimen copy of the *Collection Oriental*.

Resolved that the Secretary do order it, if not above 100 francs per volume.

Dr. Burnes then called the attention of the meeting to the approaching departure of Col. Dickinson, one of the *Vice Presidents* of the Society, and proposed the following resolution, which was seconded by the Rev. G. Pigott:—

“ That at the next meeting, it be taken into consideration, how the Society can best mark its sense of Colonel Dickinson's zeal and diligence in forwarding the interests of the Society.

Resolved unanimously that the above motion be notified in the usual monthly circular, calling the next meeting of the Society.

At an Anniversary Meeting of the Society held in the Library rooms on Thursday the 9th November:—

The Hon. G. W. Anderson, President, in the Chair.

The following papers were read:—

1. Miscellaneous remarks on the observations now in progress at the Observatory, Bombay, in reference to Atmospheric pressure, accompanied by plans indicating the variation of the Barometer and Sympiesometer, in reference to this subject, by G. Buist Esq. L. L. D.

2. Memorandum on the Mahratta literature published at the lithographic presses of Bombay, by R. X. Murphy, Esq.

From the Private Secretary to the Honorable the Governor, transmitting a letter from the Secretary to the New York National Institution, proposing to open a correspondence with the Society.

Resolved, that the Society accept the offer of the New York Institution, and that the Secretary be directed to communicate the same to the Private Secretary of the Honorable the Governor, for the information of the Institution.

The Secretary called the attention of the Meeting to a report of the Proceedings of the Asiatic Society of Bengal, in which an application was directed to be made to the Supreme Government for copies of the Observations made at the Magnetic and Meteorological Observatory of Bombay, and suggested that a similar application should be made to the Bombay Government on behalf of the Society.

Resolved, that application be made for two copies of these papers, one for the Library, and one, for more careful preservation, amongst the works of reference.

The Secretary submitted a memorandum on the progress made during the year in augmenting and arranging the Museum.

The new catalogue in a nearly finished state was laid on the table. It was stated that, it contained all the details usual in Catalogues of Libraries in Europe, and that the old arrangement of the books had been as little altered as possible, consistently with finding space for the books of those departments which had been greatly augmented during the last few years, and with the adopted recommendations of the special Committee.

The Society directed that the best thanks of the Society should be communicated to Charles D'Ochoa, Esq. Honorary Member of the Society, for his great and disinterested exertions in the arrangement of the Library and the formation of the Catalogue.

The following motion of which due notice was given, was then brought before the meeting: —

That in consequence of the approaching departure of Colonel Dickinson, one of the Vice Presidents of the Society, it be taken into consideration at the meeting how the Society can best mark its sense of Colonel Dickinson's zeal and diligence in forwarding the interests of the Society.

It was proposed by Dr. James Burnes, K. H. Vice President, and seconded by the Rev. G. Pigott: —

That the Society cannot allow Colonel Dickinson to vacate his place as Vice President, without tendering to him its best thanks for the great attention, which during a long period of years he has devoted to its interests, and for the many useful suggestions he has at different times offered for the advancement of its objects.

Resolved unanimously that the Secretary be directed to forward a copy of the above resolution to Colonel Dickinson.

The accounts of the Society were laid on the table.

The Society then proceeded to the election of Office-Bearers for the ensuing year.

The Office-Bearers elected were as follows.

PRESIDENT.

The Honorable G. W. ANDERSON.

VICE PRESIDENTS.

The Right Rev. LORD BISHOP of Bombay.

The Honorable J. H. CRAWFORD.

JAMES BURNES, K. H. F. R. S.

The Honorable Sir ERSKINE PERRY, Knight.

Committee of Management.

C. MOREHEAD, Esq. M. D.

The Rev. G. PIGOTT.

W. HOWARD, Esq.

J. HARKNESS, Esq.

G. BUIST, Esq. L. L. D.

J. L. PHILIPS.

JAMES BIRD, Esq. F. R. G. S.

Col. G. R. JERVIS.

The Rev. J. M. MITCHELL.

S. S. DICKINSON, Esq.

J. G. MALCOLMSON, F. R. S. Esq. Secretary.

MESSRS. FORBES, & Co. Treasurers.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society held in the Library rooms on Wednesday the 13th December, 1843.

The Hon'ble G. W. Anderson President, in the Chair.

Read a letter from Lieutenant Colonel Dickinson, acknowledging receipt of copy of the resolution of the monthly meeting of the 10th November relative to his retirement from the office of Vice President.

Read a letter from Dr. F. Tanman Junior, dated Berlin, July 6th 1843, acknowledging the receipt of a box of Geological Specimens forwarded to him, and requesting to be supplied with a series of Zeolites from Poona, also offering to forward another collection of rare minerals for the Society's Museum.

Read a letter from W. Escombe Esq. Secretary to Government, presenting 2 copies of the *Alif Laila* to the Library, by Government.

Read a letter from H. Torrens, Esq. Secretary to the Asiatic Society of Bengal, acknowledging the receipt of a copy of the *Vendidad*, and of a box of Geological Specimens, and presenting to the Library a series of oriental works, ordered by the Society through Messrs. Thacker and Co. Also a letter from these Gentlemen mentioning their having received the books free of charge.

Skins of two species of bears, and a collection of skins, skulls, and

horns of various mountain sheep and antelopes, were presented by Dr. Elliot, late of the Indore contingent, through the Secretary.

A note from J. G. Malcolmson, Esq. was read by the acting Secretary, referring to a very fine silicified palm tree, and the lower jaw of a Mastodon discovered in February at Peermocha near Broach, and presented to the Society. They were found in a marine tertiary sand stone conglomerate which extends over a considerable part of the Broach and Rajpeepla districts.

The following works were presented by Manockjee Cursetjee Esq. *Memoires des Antiques du nord*, and *Ultimi progressi geographia*.

The thanks of the meeting were directed to be communicated to the respective donors.

The meeting then adjourned to Wednesday the 10th January, 1844.

Dunning
Dawson
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32211

PREFACE.

ALTHOUGH the objects for which the Bombay Branch of the Royal Asiatic Society was originally instituted, have been steadily kept in view since the publication of the first number of its Journal, and the Editor feels much indebted to those who have enabled him to arrive at the completion of this its second Volume, yet it cannot be observed without regret, that with a field so wide and with so many opportunities open to the Members for extending our knowledge of the Archæology, Philology, Geography, &c. of Western India, Persia, Arabia, Ethiopia and other neighbouring countries, so little comparatively speaking has been accomplished.

It was anxiously hoped, that the literary and scientific communications to the Society on subjects connected with Oriental Research, would have maintained a quarterly issue of its Journal, but experience has proved them to be insufficient.

Much credit however is due to those who have contributed. To Dr. Stevenson and Professor Orlebar, who have most kindly and cordially rendered their aid on Literary and Scientific subjects; to Assistant Surgeon Carter for his papers on the Tribes, Language, and Natural Products, of Southern Arabia; and to the Rev. J. Murray Mitchell, who has enriched the present volume with two interesting and highly useful synoptical accounts of the Parsi Religion, and the system of the Vedas.

In the death of the late Ball Gungadhur Shastree, remarkable among the native community for his great talent and acquirements, the Society has lost a valuable and most useful contributor of *Indian Inscriptions*,—that branch to which Professor Lassen has particularly called the attention of our members, as being the only means of obtaining a clear and authentic knowledge of the early history of this country.

The Editor on taking leave of the Society, in consequence of his return to England, feels it due to state to his learned Associates, that the pleasure he has ever experienced in rendering his services to the Society, as well as the interest he has taken in all that concerns its welfare and the advancement of its objects, will suffer no diminution, although he may no longer be present to assist in its operations.

Bombay ; 30th, November, 1847.

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Note.—Opposite to Dr. Stocks' descriptions of the Balsam-trees of Sindh, will be found original drawings of parts of the plants themselves, executed under his superintendence. They scarcely require numbers for reference, each plate containing representations of *old branches* with the flowers, fruit and fascicled leaves on them; and of *young shoots*, on which the leaves are arranged alternately. In the dissections are seen the nut enveloped by its pulp, with the deciduous valves by its side, also sections of the two and the three valved ovary &c. &c.—*Ed.*

JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

v. 2 no. 8
OCTOBER, 1844.

Part I.—*Two ancient Inscriptions, in the Cave character, and in Sanskrit language, which, engraved on Copper plates, are translated into English, by BALL G. SHASTREE, Esq., with remarks by the Secretary.*

JAMES BIRD, Esq., *Secretary to the Bombay Branch R. A. S.*

MY DEAR SIR,—I have now the pleasure of returning the Copper plate, you gave me the other day, with correct transcripts in the original and Balbúd characters, as well as a translation of its contents into the English language.

On comparing the names of kings, mentioned in this grant, with Mr. Walter Elliott's genealogy of the *Chalukya* race, as ascertained from the numerous inscriptions collected by that gentleman, (*Journal Roy. As. Society, London, No. VII. p. 7.*) I am disposed to think that the Prince, *Visknu Vardhan*, referred to in this grant, must be the grandson of king *Vikrama*, or *Vikramaditya*, the beginning of whose reign is placed in the *Shaka* year 655, or in 733 A. D.; and whose son, the father of our honor, according to both authorities, is of the name of *Kirti Varma*. The antiquity of the document is fully borne out by the nature of the character; which, were there no proof to the contrary, may indeed make it two or three centuries older, as may be easily seen from an inspection of Mr. Prinsep's Table of the ancient Alphabets, in the VIIth Volume of the Bengal Asiatic Society's Journal. We would certainly be at liberty to identify *Vikrama* with an elder prince of that name, the date of

whose reign is 514 *Shaka*, if it were not for a disagreement in the names that follow.

The language of the grant, unlike that of other writings of this kind, is extremely simple; and the description of the family of the reigning monarch is confined to two of his ancestors. These circumstances may perhaps be attributed to the decline of the power of the *Chalukyas*, which soon afterwards was very much curtailed, if not altogether annihilated, at least, for a considerable length of time.

The inscription is full of orthographical errors, too numerous to be enumerated. There is one particular symbol used, which I have not where met with. I allude to the mark \bigcirc for इ (i) instead of σ . The medial उ (ú) is expressed both by उ as well as ए , which latter form, being that of the modern Deva Nagari, may indicate that the Cave character was in a state of transition when the grant was written. The inscription on the seal is literally श्री बिदुरस, *Shri Bidurasa*, which I must leave to your superior judgment to explain. The village of Aland Tirtha, the grant of which is commemorated in the Plate, may be identified with Alandi near Puna, as I know of only one other Aland, but it is situated to the north of the Bhima and not to the south.

Connected with the history of the *Chalukyas*, I send you herewith an Inscription, taken from a Copper plate grant, of the 5th century of the Christian era, which Professor Orlebar presented to your Society in 1841, after carefully comparing it with the original at my request. As confirming the few records of that period found by Mr. Elliott, it is a document of some importance; and as it has not up to this day been published in the Transactions of the Parent Society, to whom I believe, it was transmitted, you may, if you think proper, give it a place in your Journal, along with this additional relic of the *Chalukya* family, which has been brought to light through your exertions.

I am sorry that I could not prevail upon the Thakur, who brought me the Plate, to part with it on any consideration.

Believe me, dear Sir,

Your's most sincerely,

BALL G. SHASTREE.

7th August, 1844.

No. 1.

Translation of a Copper plate grant of land, found at Sattara, and now in possession of JAMES BIRD, Esq.

Blessing. King *Rana Vikrama* was descended from the family of the *Chálukyas*; the sons of *Hariti*, of the same Gotra as the descendants of *Manú*, meditators on the feet of *Swami Mahasena* (1); the chain of whose arms was protected by the body of the mothers of the world, and who had been blessed with the Boar signet, by Vishnu on being aroused from his slumbers in the milky ocean. May this king be glorious; who, being himself a good ruler, was gifted with good ministers and good counsellors; who had humbled the pride of all his enemies, and who had acquired great renown by his virtuous deeds in chastising the wicked men of the *Kali Yúg*. His son *Kirti Varma* was a famous protector of the earth, and reigned for a long time, distinguishing himself for worthy actions. His son was as handsome as *Kandarpa* (2). Knowing his duties and having a feeling of gratitude, he equalled Arjuna, as if he was intended by the Creator, like that hero, to remove the vanity of men who support themselves by arms. This prince named *Vishnu Vardhan*, while he had conciliated the attachment of the world, and was in the habit of receiving homage from the crowned heads of numerous humiliated vassals, during his regency (3), bestowed formally, (pouring water, &c.) on the 15th Kartika at Kummarathya, a village called *Aland Tirtha*, situated to the south of the Bhima and to the north of the free hold called Anopalwa, upon the sons of Lakshumana Swami of the *Kaushika Gotra*, (the descendants of Viswamitra,) who had penetrated through the Vedas with all their branches—to Achala Swami, Deva Swami, Aditya Swami, Nagkumara with all their sons, grandsons, &c. This grant is made to support the performance of *Vaishnavadeva*, *Agnihotra*, and other ceremonies, with the view of securing virtue to the donor himself and his parents, and is to last as long as the sun, the moon, and the earth exist. Let it be known to all the authorities on the frontier, our

(1) The son of Mahadeva, usually called Kártikeya, and Commander-in-Chief of the celestial armies.

(2) The god of love.

(3) This passage is susceptible of a different interpretation. It may mean the "Grant is made by the regent of Vishnu Sharma, named Vishnu Sidh." "

vassals, heads and great men of the place, &c. that this village is not to be entered into by troops of the state or of persons living on usury. Knowing that the grant is lawful, and that the duration of this life is as transient as the waves of the sea agitated by a gale, the same should not be resumed. Whoever, having his sense obscured by the mist of ignorance, should interrupt our grant or approve of its being interrupted, shall be guilty of the five great sins. As Vyasa, the expounder of the Vedas, says; He who makes a grant of land, lives 60,000 years in heaven; whoever resumes it, or approves of its resumption, is doomed to reside in hell for an equal length of time. Sagara and many other kings, &c. who make grants of land, do not gain so much merit as those who protect the grants of others. O king Yudhishtira! maintain with care all the former grants of land. O good king, the preservation of a grant is a more virtuous act than the giving of it. A man, though he may be on the verge of death, should never think of depriving a Brahman of his estate; for what is burned by fire springs up again, but what is burned by a Brahman's curse never revives. Whoever seizes the land, &c. Those who resume grants of land become black serpents in the hollows of trees in the arid deserts of the Vindhya. This edict is written in the 8th year of the king.

No. 2.

Translation of an Inscription of a Copper plate grant, belonging to a Thákur of the name of NĀESU BHĀLA, of Nandgām in the Northern Konkan. 1841.

Peace. Glory be to the Boar (1), in whom Vishnu was made manifest, who agitated the ocean, and bore the earth on the tip of his uplifted right tusk. *Shri Kirti Varma Rāja*, whose body became pure as the Avabhrittha bath of the Ashwamedha sacrifice, adorned the family of the prosperous *Chalukyas*, of the same Gotra (2) as the descendants of Manu; who are praised by the whole world; the sons of Hārīti (3); brought up by seven

(1) The third incarnation of Vishnu for the recovery of the earth from the waters.

(2) A distinctive appellation of Brāhman and Kshatriya families, denoting their descent from particular Rishis.

(3) Probably some local goddess, worshipped by the family.

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mothers, who were even as the seven mothers of the world (4); who, through the protection of Kártikeya, gained a succession of blessings; and who, under the eye of the Boar signet, obtained through the favour of the god Narayan, subjugated all the kings of the earth. His son was *Shri Palakeshi Vallabha*, whose lotus-like feet were touched by the crowns of many hundred kings; whose firmness was as that of the mountains Merú, Malaya, and Mandara, whose whole army of infantry, cavalry, chariots, and elephants, was increasing day by day; who on his noble horse Kanta Chitra (5) reconquered his own dominions, and (afterwards) the three kingdoms of *Chera*, *Chola*, and *Pandya*; who gained a new title by the defeat of *Shriharsha*, lord of the northern countries; who ever meditated upon the feet of *Shri Nága Vardhan*, and was an eminent follower of Mahádeva. His younger brother *Jaya Sinha*, the supporter of the earth, subdued all his rivals. His son, the prop of the three (6) worlds, *Raja Shri Nága Vardhan*, informs all the present and future kings:—Be it known to you that at the request of *Ballám Thakúr*, we have assigned (pouring water &c.) for the support of the holy inhabitants of Balegram, and in furtherance of the Guggul worship of *Kupaleshwar*, the said village, which is situated on the boundaries of Goparashtra, with its public buildings, and appurtenances, with the quarters of the impost and the military; (7) that (the glory of) our father and mother may endure as long as the sun, the moon, the sea, and the earth exist, and that our own virtue and fame may be promoted. May then this our grant be respected and observed by our descendants, or other future kings, remembering that life is as transient as the clouds of November. According to the saying of the holy Vyasa, “Sagar and many other kings have enjoyed the earth, whoever may be the master of the earth, this is the fruit thereof. Whoever resumes the land which

(4) Seven female deities well known in the Hindú mythology as Bráhmī, Maheshvarī, &c. the energies of Brahma and other gods.

(5) कंटचित्राख्य is erroneously written कंटान्द्राख्य.

(6) Here we have त्रिभुवन, instead of विभुवन.

(7) This was the sense that the passage appeared to me to convey, when I originally translated the Inscription. I have been however satisfied, that it means “the village is not to be entered into by the troops and followers of the king.”

either he himself or others have given, becomes a worm, doomed to pass sixty thousand (8) years in filth."

Remarks on the foregoing Inscription.

1.—The Copper plate, of which a copy and an English translation are herewith submitted to the Society, consists of two pieces 7 inches by 5, connected by two rings, one of which bears a seal, which is exactly represented in the fac-simile. It belongs to Narsu Bhalá, a Thakur, originally an inhabitant and a Wataudár of Kavanái, in the valley of Trim-bakeshwar, but now living at Nándgam in the Northern Konkan. His family has been in possession of it from time immemorial, and believing that it contained some grant to his ancestors, he was induced to send it to me to be decyphered.

2.—By the help of Mr. Prinsep's table of the Indian Alphabets, I succeeded in reading the whole of the inscription without much difficulty. The character in which it is written will be found to bear a close resemblance to that of the Allahabad Pillar, which, according to the Journal of the Bengal Asiatic Society for March 1838, belongs to the 5th century of the Christian era.

3.—The Plate bears no date, nor makes any mention of the place where the deed was written; but it will be found that the grant was made by Nága Vardhan, the nephew of Pulakeshi, the most mighty of the well known Chalukya race of Kallian (in the Dekhan), on whose history much light has already been thrown by the elaborate researches of Mr. Walter Elliott, of the Madras Civil Service. (9) If according to the Copper deed in the possession of Major Jervis, quoted in Mr. Elliott's paper, Pulakeshi reigned in the year 411 of Shalivahana, the Inscription now submitted cannot be more than a few years later than that period, a result which remarkably verifies what is stated as probable in the preceding paragraph.

4.—On comparing the present Inscription with one that accompanies Mr. Elliott's paper, the fact that first strikes notice is the great similarity of language. Both the documents begin with the same invocation to

(8) The word वर्ष, a year, is spelled वरिष.

(9) See Mr. Elliott's Essay on the subject p. 8. R. A. Society's Journal for May 1837.

Varāha, and designate the Chalukya family as "Manovyasa Gotra," "the children of Hariti," "supported by the seven mothers," and as having subdued all their enemies in an instant by the boar signet obtained from the favour of Bhagvān Narāyan." An indubitable proof of the identity of the king Pulakeshi, mentioned in both grants, is furnished by the allusion to his horse "Kantha Chitra," and the performance of the "Ashwamedha" sacrifice, which from the amount of its expense and the difficulty of its conditions, (of which the exaction of tribute from all the contemporary sovereigns is the principal one,) has not been undertaken by many modern princes. This king, according to Mr. Elliott's genealogical table, is the son of Rāna Raja or Rāja Sinha, while according to the Inscription before us, he is the son of Kirti Varma. There is, however, no real contradiction between the two accounts; for as the name Rāja Sinha occurs in one place according to Mr. Elliott, and he regards it as doubtful, we may suppose it was a mere title of honour like Rāna Rāja, and that Kārtik Varma is the proper name of this king. It will be seen that the younger brother of Pulakeshi bears the name of Jaya Sinha, the same as that of his grandfather, who may be supposed to be the founder of the Chalukya (10) dynasty in the Dekhan. Thus the Copper plate now brought to light, supplies us with three additional names of the Chalukya kings; viz. Kirti Varma, Jaya Sinha, and Nāga Vardhan, the father, the younger brother, and the nephew of Pulakeshi.

5.—With regard to the position of the "Gopa Rashtra," on the frontiers of which "Balegrama" is said to have been situated, we have some ground on which to hazard a conjecture. A tradition exists that near the village of Anjan Niri, about five miles from Trimbakeshwar, where extensive ruins of a town and a strong fort are still to be seen, there formerly stood the capital of the *Gaoli* or Cowherd kings. We may therefore suppose that the valley of Nashik was called Goparashtr in the time of the Chalukya kings. This hypothesis is further supported by the site of the original residence of the Thakur's family, where it is reasonable to suppose that the grant must have been found. (11)

6.—On asking Narsú Bhálá whether there was any tradition current

(10) Cháluka is a common family name among the Marathas.

(11) Balegram near Yavlé, may be said to be situated on the frontiers of this Goparashtra, but it would require a better proof to identify it positively with the village mentioned in the grant.

in his family or in his tribe respecting Ballam Thákur, at whose request the village is said to have been granted, I could obtain no information. The mention of his name, however, on so old a document proves, that the Thakurs formed a portion of the original inhabitants of the Dekhan; and some of them possessed great influence with the reigning sovereigns of the time.

7.—In conclusion I have only to remark that the language in which the deed is written is elegant, but simple and unaffected; and is evidently the production of a period anterior to that when the taste of the Hindus was vitiated, and they became fond of a bombastic style, abounding in laboured rhymes, far-fetched metaphors, and childish play upon words. The few errors, which occur principally in the spelling, are marked on the margin of the translation.

8.—I have already said that the character of this grant is nearly the same as that of the Allahabad Pillar. None of the initial vowels occur, with the exception of उ (u); the medials are more nearly allied to those of the Gujarat Plates of the 4th Century than of the Allahabad Inscription; the only difference being that ई (i) is written ए instead of ई; and ए (e) and ऐ (ai) are joined as in modern Bálbudh, and not as in Bengali to which the corresponding letters in the Gujarat Plates are alike. Among the consonants I notice some dissimilarity in the following letters:—

| | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|------|
| | च | थ | ब | म | ल | स | श | श्री |
| Allahabád Inscription. | ८ | ० | □ | □ | ८ | ८ | ८ | ८ |
| The Nandagám. | ८ | ८ | ८ | ८ | ८ | ८ | ८ | ८ |

I may observe that म and स of the Plate exactly correspond to those in the Gujarat Plates. It is worthy of notice that the letter न (n) occurs in two distinct forms ण and न. The former of these is that of the Allahabad Pillar, and the latter of the Kutila Inscription from Bareilly of the year 992 A. D. The first form however is found only in composition.

Additional remarks on the two preceding Inscriptions, by the Secretary.

The earliest records of the Hindu social system, contained in the *Ramayana*, *Mahabharata*, and *Manu*, confirm the uniform traditions of the people, that Bengal, Orissa, and the whole of the Dekhan, south

of the *Nermada* river, were about the beginning of the Christian era inhabited by outcaste and barbarous tribes, similar to the people called by Pliny *Calingæ*, or *Parthiales*; who inhabited the sea coast, at the summit of the bay of Bengal, from point Godaveri to cape Negrals. The ascertained independent origin of the primitive words of the *Tamul* language, which are not derived from *Sanskrit*, afford strong confirmatory evidence of the comparatively recent amalgamation of these tribes with the present Hindu state, and that they were converted to the Brahmanical system, and from barbarity, by an enlightened and civilized people from the North. The numerous inscriptions, on copper and on stone, which have been arranged and commented on, with great research, by Mr. Walter Elliott, of the Madras Civil Service, supply additional proofs, relative to this subject; and clearly indicate that the *Brahmans* of the North, who introduced the foreign faith and language, were accompanied by a warlike race of *Kshatriyas*; who, from their devotion to the worship of fire, and the ceremonial observances enjoined by the *Vedas*, were denominated *Agnikulas*, and subsequently *Rajputs*. The inscriptions here translated, relative to this stage of the Hindu history of the South, are of considerable interest; and illustrate the origin of the Rajput family of the *Chalukyas*, who ruled over *Kuntala Desha*, in the Dekhan, of which the capital was Kalliani.

In an inscription, engraved on copper, in a very ancient type of the Purvada Hallâ Kanara character, and in the Sanskrit language, dated Shaka 411, (A. D. 490),* the *Chalukyas*, are said to be descended from *Manu*, by the lineage of *Harita*;† who, according to the *Vishnu Purana*, was one of the sons of the *Kshatriya Visvamisra*, who obtained Brahmanhood through devotion; and from whom the *Gotra*, or family of the *Kaushika Brahmins* derive their origin. According to the inscription just mentioned, and in the possession of Major T. B. Jervis of the Bombay Engineers, the earliest member of the *Chalukya family*, cotemporary with the date of the grant, A. D. 490, was *Pulakeshi*, who conquered the South, and subdued the kingdoms of *Chera*, *Chola*, and *Pandya*, or Mysore, Tanjore, and Madura. He is mentioned in No.

* See Journal of the Royal Asiatic Society, London, volume V. p. 343.

† According to the Vishnu Purana the *Harita* are classes of gods, belonging to the twelfth *Manvantara*; but in the preceding Inscriptions the name is feminine *Harati*, who among *Bauddhas* is a *Yakshane*, or female demon.

2 of the present Inscriptions ; and seems to have been preceded by ancestors in the North ; who came from the Bauddha capital of *Sawathi-pura*, thought to be the same with *Kosala*, or *Qude*. It is mentioned in the Ceylon Bauddha annals ; and is erroneously called *Watapipura*, in Mr. Elliott's Ye-ur inscription.

The *Vishnu Vardhan*, No 1 of the Inscriptions now translated, was probably the grandson of *Pulakeshi*, by his son *Kirti Varma*; and if so, his date, ascertained from other inscriptions, would place the present Copper plate grant, about the beginning of the sixth century A. D.

The Chalukyas generally profess themselves of lunar origin, and may do so probably from deriving their title from one of the four classes of Bauddha followers, called *Chailaka* : but they must have subsequently adopted the ceremonial faith of the *Vedas*, and *Agnikulas* or worshippers of fire : as *Kirti Varma Raja* is said, by inscription No. 2, to have performed the *Ashwamedha* sacrifice. Their signet of the *Varaha*, or Boar being the third incarnation of *Vishnu*, for the elevation of the earth, submerged by the waters, and supposed by Professor H. Wilson, to be a type of the ritual of the *Vedas*, may have been adopted by the *Chalukyas*, on their conversion from Bauddha principles to the orthodox faith of the Brahmins. In both inscriptions *Kartikeya*, or the *Hindu Mars*, is the special object of reverence by the *Chalukyas*, indicating their warlike character, and probably Indo-Scythic origin.

No. 1. Transcript in Devanagri.

स्वस्तिस्वामिमहासेनपादानुध्यातानामानव्यसगोत्राणांहारीतीपुत्राणां
मातृगणप्रसादपरिरक्षितभुजार्गलानांक्षीरोदधिशयनसुप्तोत्थितप्रसादप-
रिलब्धवराहलाञ्छनानांचलिक्यानांवंशेसंभूतः शक्तित्रयसंपन्नः ॥ जयति
रणविक्रमनृपोनिरस्तारिपुनृपतिशौर्यमदरागः ॥ कलियुगखलनिर्मथनेसत्या
श्रयभाविताश्रितैः॥ अभवन्नस्यसकीर्तिकीर्तिवर्मास्थिरस्थितिः॥ सुतःसुच-
रिताधारः कृतकृत्यः पतिः क्षितेः ॥ तस्यपुत्रोमहातेजाकंदर्पइवमूर्त्तिमान् ॥
धर्मज्ञश्चकृतज्ञश्चपार्थतुल्यपराक्रमः॥अभिमानमिकेतुर्नराणांशस्त्रजीविनां

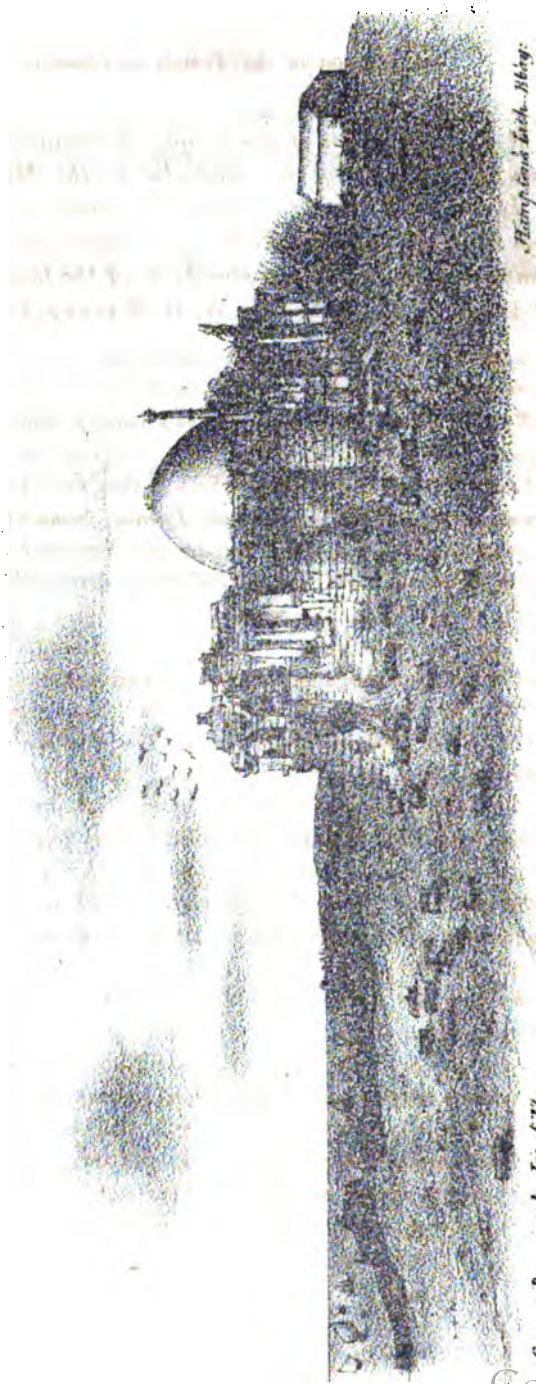
विधात्राविहितोलोकेसचबीभत्सुरेवच ॥ तेनअनेकसामंतप्रणतमुकुटचूडा
मणिनिघृष्टचरणारविदेनसकलमहीमंडलतिलकभूतेनश्रीपृथिवीवल्लभवि-
ष्णुवर्धनयुवराजविषमसिद्धिनाकुरुमरथ्यावस्थितेनमातापित्रोरात्मनश्चपु-
ण्यावासयेकार्तिकपौर्णमास्यावेदेवेदांगपारगानां ॥ घृतकौशिकसगोत्रा-
णांविश्वामित्रव (धृत) लक्ष्मणस्वामिपुत्राणांअचलस्वामिवेदस्वामिदेवस्वामि
आदित्यस्वामिनागकुमारसहितानांपुत्रपौत्रादीनामव्यात्संगेनाचंद्रार्कक्षि-
तिस्यतिसमकालंबलिचरूवैश्वदेवामिहोत्रहवनपंचमहायज्ञार्पणार्थमश्री-
निलयभोगोअणोपल्वामाहारस्योत्तरतः भीमरथीदक्षिणतटेअलंदतीर्थना
मग्रामोविधिवदुदकपूर्वदत्तः ॥ विदितमस्कसर्वेषांपर्यंतविषयपतिसामंतग्रा
मभोगीकमहत्तरादीनांआचाटभटकुसीदादीनामप्रवेश्यः सर्वादानविभु-
(शु) ध्येयवगम्यचलपवनप्रेरितोदधिजलतरंगचंचलजीवलोकमनुप्रेक्ष्य-
(प्य) तस्मात्लोपोनकार्यः ॥ योवाज्ञानतिमिरपटलावृतमतिरा (दा)
छिद्यदा (रा) छिद्यमानयोवानुमोदेत्सपंचभिर्महापातकैः संयुक्तोभविष्य
तीत्युक्तंभगवतावेदव्यासेनव्यासेन ॥ षष्टिवर्षसहस्राणिस्वर्गेतिष्ठतिभूमि-
दः ॥ आच्छेत्ताचानुमंताचत्तान्येवनरकेवसेत् ॥ बहुभिर्वसुधाभुक्काराज-
भिस्सगरादिभिः ॥ यस्ययस्ययदाभूमिस्तस्यतस्यतदाफलंतादृक्पुण्यंनदा-
तरंजायतेनोधराभुजां ॥ भुवमन्यप्रतिष्ठात्य (प्य) यादृग्भवतिरक्षतांपूर्वद
त्तांदिजातिभ्योयन्नाद्रक्षयुधिष्ठिर॥ महींमहिमतांश्रेष्ठादानात्श्रेयोनुपालनं॥
ब्रह्मस्वेमामर्तिकुर्यात्प्राणैःकंठगतैरपि ॥ अग्निदग्धानिरोहंतिब्रह्मदग्धंनरो-
हति ॥ स्वदत्तांपरदत्तांवायोहरेतवसुंधरां ॥ षष्टिवर्षसहस्राणिकुंभीपाकेषुप
च्यते ॥ विंध्याटवीश्वतोयासुशुष्ककोटरवासिनः ॥ कृष्णाहयोभिजायंते
भूमिदानापहारिणः श्रीमहाराजस्यप्रवर्धमानकसंवत्सरेअष्टमेशासनंलि-
खितमिति ॥

No. 2. Transcript in Devanagari.

स्वस्ति जयत्माविष्कृतविष्णोर्बाराहक्षोभितार्णवं । दक्षिणोन्नतदंष्ट्रायवि
श्रान्तभुवनवपुः

श्रीमतांसकलभुवनसंस्तूयमानमानव्यसगोत्राणांहारीतीपुत्राणांसत्तलोक
मातृभिःसप्तमातृभिरभिवर्धितानांकार्तिकेयपरिरक्षणावाप्तकल्याणपरंपरा
णांभगवन्भारायणप्रसादसमासादितवराहलाञ्छनेक्षणक्षणवर्गीकृताशेष
महीभृतांचालुक्यानांकुलमलंकरिष्णोरश्वमेधावभृयस्नानपवित्रीकृतगात्र
स्यसत्माश्रयश्रीकीर्तिवर्मराजस्यात्मजोनेकनरपतिश्चतमकुटतटकोटिघृष्ट
चरणारविदोमेरुमलयमन्दरसमानपैर्योहरहरभिवर्धमानवरकरिरथतुरगप
दातिबलोमनौजवैककंठचित्रारव्यःप्रवरतुरंगमेनोपाजितस्वराज्यविजितचे
रचोलपाण्ड्यक्रमागतराज्यत्रयःश्रीमदुत्तरापथाधिपतिश्रीहर्षपराजयोपल
ब्धापरनामधेयःश्रीनागवर्धनपादानुध्यातपरममाहेश्वरःश्रीपुलकेशिवल्लभः
तस्यानुमोभ्राताविजितारिसकलपक्षोधराश्रयःश्रीजयसिङ्गधर्मराजस्तस्य
सूनुःतृभुवनाश्रयश्रीनागवर्धनराजःसर्वनेवागामिवर्त्तमानभविष्यांश्चनरप
तीन्समनुदर्शयत्यस्तुवःसंविदितंयथास्माभिर्गोपराष्ट्रविषयांतपातिबलेग्राम
सेङ्गसपरिकरसचाटभटप्रवेशसुचंद्रार्कार्णवक्षितिस्थिति समकालीन
मातापित्रोर्दृष्ट्यात्मनश्चविपुलपुण्ययशोभिवृध्यर्थं बलाम्मठकरविज्ञासिक
याकापालेश्वरस्यगुग्गुलपूजानिमित्ततन्निवासिमहाव्रतिभ्य उपभोगायसलिल
पूर्वकंप्रतिपादितस्तदस्मद्वंश्यैरन्यैर्वागामिनृपतिभिःशरदभ्रचंचलंजीवि
तमाकलप्यायममहायोनुमंतव्यःप्रतिपालयितव्यश्चेत्युक्तंभगवताव्यासेन
बहुभिर्वसुधाभुक्काराजभिस्तगरादिभिःयस्ययस्ययदाभूमिस्तस्यतस्यतदा
फलमिति।स्वदत्तांपरदत्तांवायोहरेतवसुंधरांषष्टिवर्षसहस्राणिविष्टायांजाय
तेकृमिः।

Plate III.



From a Drawing by Lieut. Thorne.

TEMPLE OF SOMNATH.

From a Drawing by Lieut. Thorne.

ART. II.—*An Account of the temple of Somnath, translated from the Persian of the Appendix to the Mirat Ahmedi, By JAMES BIRD, Esq. : to which is added a translation, from Sanskrit into English, of an Inscription at Pattan Somnath, relative to the restoration of the temple in Samvat 1272, A. D. 1215. By W. H. WATHEN, Esq.*

Recent events, and the proposed restoration to the ancient temple of *Somnath* of the gates brought from Ghazna, said to have been originally part of it, have given this place a modern notoriety little inferior to its former celebrity. If indeed these gates formed part of the ancient temple, it may be doubted whether they ever belonged to the now existing ruins of the building at *Pattan Somnath*; where the shrine, according to the excellent account of it contained in the Appendix to the *Mirat Ahmedi*, was several times destroyed and restored. Agreeably to the Sanskrit inscription, translated in the sequel, the hall of this temple was rebuilt sometime after its destruction by Mahmúd of Ghazna, and a fresh image, or *lingum*, installed in the shrine so late as A. D. 1215, or almost two hundred years after the original one had been destroyed by that celebrated conqueror. The only modern account of this building, which we have on record, is that given by the late Sir Alexander Burnes, which was published in the Journal of the Royal Asiatic Society.* He thus describes the ruins:—"The great temple of Somnath stands on a rising ground on the north-west side of Pattan, inside the walls, and is only separated by them from the sea. It may be seen from a distance of twenty five miles. It is a massy stone building, evidently of some antiquity. Unlike Hindú temples generally, it consists of three domes, the first of which forms the roof of the entrance, the second is the interior of the temple, the third was the "sanctum sanctorum," wherein were deposited the riches of Hindú devotion. The two external domes are diminutive: the central one has an elevation of more than thirty feet, tapering to the summit in fourteen steps, and is about forty feet in diameter. It is perfect, but the images which have once adorned both the interior and exterior of the building, are mutilated, and the black polished stones which formed its floor have been removed by

* Vol. v. page 105.

the citizens for less pious purposes. Every thing in the vicinity of Pattan corroborates its age, and confirms the relations of the people."

The *Mirat Ahmedî's* account of this celebrated temple, being interesting, is here appended as translated from the Persian.

Somnath, the greatest and most celebrated of temples to be met with, is visited by the worshippers of idols from the four quarters of Hindustan. This also is the name of the city situated on the shore of the sea of Oman, and in the district of *Sorath*, where there is a strong fortress, now named *Pattan Deo*, and otherwise called *Prabhas Pattan*, because in that country the *Khetri* tribe is known by the name of *Prabhas*.* At this time the place of the idol is in a great measure destroyed, but it is celebrated in every country, and among the Hindûs is considered the oldest of the temples: wherefore travellers and strangers have noticed it in their books both in prose and verse. The author of the *Haft Iklim* relates that there were many golden images in this temple, and that they called the greatest of them *Manat* †: but the general opinion regarding this matter, is that *Manat* was not one of the idols worshipped by the Brahmans, although it be said that this deity, before the time of *Krishna* now four thousand years, was worshipped by the Brahmans. *Mahmud Ghazi* of Ghazna, however, led by inevitable destiny, having in the year of the Hejirah 416, A. D. 1020, come into Gujarat from Ghazna, in order to throw down and destroy the idols of this temple, laid siege to it. So obstinate was the contest on both sides, during the period of the siege, that for one day no advantage was gained by the Mahomedans, but having prepared next day the usual war machines, they bravely exerted themselves in battle, while the people of Somnath crowded to the temple; from whence, after having embraced the idol, and sought its assistance, they with loud wailings rushed out and fought until more than fifty thousand persons were slain, and the fortress was yielded up. The Sultan entering the temple

* *Prabhāsa*, in Sanskrit, means light or radiance, and was applied as an appellation of the *Śaiva linga*, which under the name of Somnath, represented *Śiva* or *Mahadeva* at Pattan Somnath; which is called, in the *Viṣṇu Purāna*, *Prabhāsa*. The Mahatmyam, or legend of the temple, said to be a part of the *Skanda Purāna*, is entitled *Prabhāsa Kṣhetra Mahatmyam*, and relates the origin of the temple—that *Soma*, or the moon, who had lost his lustre by the imprecation of *Dakṣha*, having propitiated *Śiva*, and erected to the honor of this deity a splendid *lingum*, regained the favor of *Śiva*, who conferred on the pagoda the name of *Somnatha*. The account, which the author of the *Mirat Ahmedî* here gives for the origin of the name, is not therefore correct.

† The name of one of the three idols, which, during the times of idolatry in Arabia, were worshipped in the temple of Mekka.

beheld a place, of great breadth and length, containing fifty pillars adorned with all kinds of jewels ; within which he found the idol *Manat*, in height about five cubits, and partly buried in the earth. The Sultan on beholding this broke it to pieces with the baton he had in his hand, and afterwards carrying the pieces to Ghazna strewed them in front of the great mosque where they remain to this day. Jewels of great value fell from the belly of the idol ; but this story in detail is related in the fourth volume of the *Rauzat-as-Safa*, (a work of seven volumes,) and in other entertaining books. In fine, the people of India are only in part acquainted with the religious rites of Somnath ; which they washed daily with fresh water brought from the Ganges, and conveyed from station to station, by persons placed for the purpose, and from a distance exceeding two hundred *farsakh*. Moreover more than a thousand populous villages were bequeathed for the use of this temple ; more than twenty thousand Brahmans were employed in the ceremonies of its worship, and who had so arranged for commencing such, that they began their devotions whenever a golden chain, which was suspended in the temple, was set in motion. Three hundred persons were ready to shave the heads of the devotees who frequented the temple to worship the idols, and five hundred dancing women were also attendant on them. Many of the princes of India devoted their daughters to the service of this temple, and of Somnath ; and whatever wealth was obtained by the treasury of Sultan Mahmud, not less than a million of gold coins were carried away.

It must be generally known that whatever is evident in the old books of the Brahmans is collected at the temple of the idols, and they therefore say that the original object of worship in the temple of Somnath was a *linga*, which represents the god *Mahadeva*. There were formerly twelve *lingas* named *jot lingas*, the first word of which signifies splendour ; and is one of the many names given to *Mahadeva*, such as Bhimnath, Gopinath, Somnath, &c. : but in their estimation the original title of *jot linga* is the greatest of all, regarding which they tell many wonderful stories, and that there are eleven other *lingas* in the neighbouring countries. On a certain fixed day crowds of Hindus from every distant quarter assemble here to worship, because in their belief Somnath is a holy place and contains the *linga* of radiance, besides many golden and gilded images, which have been taken away : and relative to what they relate regarding the object of worship in the original temple being buried five cubits in the earth, it appears to have been a *linga*, which they set up in this manner ; and every *linga*, except the *jot linga*, one of the twelve, which is made of cut stone, is named and worshipped under one of the appellations of *Mahadeva*.

In the year of the Hejirah 666, A. D. 1296, when *Alagh Khan*, agreeable to the orders of *Allah-ad-Khilji*, king of Delhi, conquered the province of Gujarat, he carried an army against Somnath, and destroyed the *linga*

which had been set up after the time of Mahmud of Ghazna ; and which being restored afresh was popularly worshipped. Wherefore he destroyed the stone and forwarded many articles of wealth to Delhi.

In the year of the Hejirah 790, A. D. 1387, when Zafar-Khan had erected the standard of independence in Gujarat, the Brahmins having cut and set up another *linga*, he went and destroyed it ; and again in the time of Khuld Makan it was a third time destroyed. At the present day the remains of the temple are a few columns, outside the citadel of Pattan Deo, on the banks of the river Sirsuti.

A letter from Purani Ramdat Krishna Datt, at Prabhas Pattan, (Somnath) to Lieutenant Colonel Tod, dated the 15th of the first Chaitra Shud, Samvat, 1879. (26th March 1823).

Sir,—Further, you were pleased to commission me to make a copy of the Slokes, (verses) on the pillar near the Kazi's house, and to send it to you. I have therefore made a copy, which cost me much trouble ; because, in many parts the letters are not legible, as known to you. I succeeded, however, in copying this inscription after a labour of thirty-two days ; during which time I and my son jointly, with great difficulty decyphered the letters and arranged them. I long ago sent you this copy, through the medium of *Dada Raghupant* and *Sheth Hansraj* ; along with a letter to you, one to *Baba Maratha*, and one paper relating to this copy (of the inscription) ; but I know not whether these papers ever reached, as no answer has been received. Having made another copy I now transmit it enclosed ; and on its arrival you will oblige me by writing an acknowledgment of its receipt : for a letter from you, Sir, would gratify me greatly ; and my trouble will be rewarded by the pleasure of receiving such. This is my wish : therefore being kind, favor me with a letter.

Translation of an Inscription at Pattan Somnath in Khatyawar. By W. H. WATHEN, Esq.

I adore that eternal Being who is the source of the twenty-five principles.*

* The allusion to the twenty-five principles shews the connexion of this Inscription with the doctrines of the Sanchya philosophy, both schools of which, *atheistical* and *theistical*, acknowledge three sources of evidence ; namely perception, inference and affirmation : from which we derive acquaintance with twenty-five principles : and of these *Nature*, *Mulaprakriti*, the root or plastic origin of all, is the chief.—*Ed.*

The pulses of the five principles, Æther, Air, Fire, Water and Earth, are the *Sun* and *Moon*. Whoever contemplating these obtains abstraction, and thus discovers that which is perfection, such a one becomes concentrated in the universal spirit.

Praise be to Siva ! and the destroyers of the *daityas* (demons), *Lakshmi*, *Narayana*, these are renowned throughout the universe, and are deserving of worship !

This temple of *Sri Somnatha* is beautiful as a *Ratnakanti*, (sparkling gem,) and, in magnificence, brilliant as the splendour of the *Sun* and *Moon*.

This Deity (*Somnatha*), consisting of an assemblage of virtues, containing in himself every description of treasure, destroys and removes all kinds of pain and distress. Almighty Being ! thou art victory ! thou reignest on the shores of the ocean.

The Brahman *Sompara* is perfect, and well acquainted with the rites of sacrifice, the rules of meditation, worship, and the ceremonies of making offerings.

There was a prince, of the *Sandilya** race and *Raja Vira's* family, who caused a great sacrifice to be performed.

This Raja, sovereign of *Anahillapura Pattana*, this *Mula Raja*,† was a protector to the world.

He caused the *Ganga-ghat* to be built on the river ; many were the pious acts done by him.

Mula Raja, caused to be formed reservoirs of water, wells, tanks, temples, religious places, schools and dharmasalas, caravanseerais—hence these became as ensigns displaying his good name. Towns, villages and hamlets, were established by him and governed happily.

He became, as a *Chudamani* gem, (unexampled) in this universe; how can I describe his mighty feats ! He conquered the whole world by his own power, and then protected his conquest.

* *Sandilya* was a Muni or sage, from whom one of the three principal families of the *Kanauj* Brahmins were descended and named.—*Ed.*

† *Anahilla* was the original name for *Nehrvala Pattan*, the ancient capital of Gujarat, where reigned in succession various tribes of *Rajputs*; among which were the *Chalukyas*, to which race *Mul Raja*, according to the inscription from *Abu*, belonged. He was the first of his family, and preceded the invasion of *Mahmud* of Ghazna.—*Ed.*

The son of *Mula Raja*, named *Sri Madhu*, then contemplated the subjection of this earth.

He caused his kingdom to become populous and well cultivated; he enjoyed his government without fear (of his enemies.).

The son of this prince was *Durlabha Raja*, who, as *Siva* reduced *Kamadeva* to ashes, did so destroy the power of inimical kings.

His younger brother was *Vikrama Raja*, in strength resembling a lion.

Having assembled a numerous army, he took possession of the throne; and having subjected *Fairy Devanyini*, his fame became spread throughout the three worlds.

This prince, of high descent, governing with all the virtues required of a good king, rendered his people most happy.

Having made his own the goddess of victory, she became his standard bearer.

Of this *Paramar* race,* of *Sri Vikrama's* family, *Sri Kumarapala Raja* arose, a mighty hero.

He was a most renowned warrior, he was a king terrific and formidable, as the waves of the ocean.

The descent of *Sri Kumarapala* is now to be described.

The *Chalukya* race is most famous; and in it have arisen *Rajas*, generation after generation, forming a lofty tree of virtue; *Rajas* who caused, like *Rudra*, the forms of religion and the ways of justice to be observed; inasmuch as they showered favors on their people, as clouds by rain fertilize the earth.

Of this family arose a king of high renown, a great hero, named *Galla Raja*, who caused to be built the Hall of the Temple of *Someshwara*, and a famous sacrifice called *Meghadwana* was performed by his orders.

His son was *Lalakhia*, whose son was *Bhabhakhia*; he was a great warrior, and *Bhima Raja* was his friend. This prince *Lala*, when seated on his throne, resembled the full moon in splendour.

Whose son *Jaya Sinha*, having reigned with fame on this earth, as-

* A race of *Rajputs*, so named from destroying their enemies; and well known to History as the *Pawars*. They were a branch of the *Chalukyas*, as appears from this Inscription; but the Prince *Kumarapala*, whose era is A. D- 1174, here said to belong to them, is styled a *Chalukya* in the Sanskrit Inscription from *Abu*, No. XVIII.—Ed.

cended to the realms of bliss ; his son Raja Sinha caused Samvat *Kumarapala* to be placed on the throne, but he himself conducted the affairs of the state.

The son of *Kumarapala* was *Sri Rohina*, a great sovereign, endued with all virtues ; splendid as the sun, he became as *Sridhara* bright as the moon.

The protector of the world, the mighty, the renowned, Raja *Sri Bhima Bhupati*, paid much attention and respect to merchants.

Description of Sridhara Raja.

In the generations of the Chalukya family, appeared this prince, as a gem brilliant as the moon, possessor of every valuable quality, famous as *Sri Rama*.

Beautiful as Kamadeva, such was *Sridhara Raja*; in him was centred every virtue ; by him was adoration shewn to the *deities*, respect to the *priests*, a prince perfect in truth.

As Iswara, superior to all the *deities of Vaikuntha*, so was he to the lords of this earth, exalted as Indra.

As the cow *Kamadhenu*, granting the desires of all, thus liberal was he, exceedingly compassionate, and possessed of great humility.

Again superior to other Rajas, as Rajahansa to other birds, his fame and splendour pervade this globe as the rays of the moon.

In Praise of Sri Somnatha.

Who can wash away sins as the water of a torrent, who can render his worshippers prosperous and successful, such a deity is *Sri Somnatha*.

This Temple is unique in the three worlds, a fit spot for devotion : whoever has an auspicious birth meditates on this god ; the virtues of this deity are universally known, he is pure and undefiled.

Such is that Siva ! from hearing whose praise the mind becomes pure. He will bestow on his worshippers all good things, and will grant them entrance into Paradise.

Resembling a gem, his place is central ; he of his goodness will pardon the sins of those born in the *Kali age*.

His majesty and might are, as his virtues, spread throughout the world. May he always be predominant ! Serpents are his ornaments.

He is lord of the universe ; he is the sole asylum of mercy in the three worlds.

Description of Pattana.

This is a city called *Devaka Pattana*, possessing, by favor of Siva, lofty mansions, magnificent temples, numerous gardens, and delightful groves.

Description of Sridhara.

As the sea by its waves can remove mountains of sin, so *Sridhara* by his army governs *Somnatha Puri*.

There is in this city a beautiful temple of *Sri Krishna*; there is also a minister of great prudence, who expels evil doers and the vicious.

This *Sridhara*, having had several invocations recited, and sacrifices performed, has erected temples for the sake of religion, and has encircled them with gardens, groves and bowers. These temples resemble the pinnacles of the golden *Meru* in splendour and brilliancy. Of these, that of *Somnatha* is most wonderful; there are cupolas of various forms, with a variety of flags; so that the place resembles the holy mountain.

Description of the Priest of the Temple.

The Priest is the most excellent of mankind, the abode of virtue, the compassionate *Maheshwara*.

A constant worshipper of Siva, one who possesses all the most estimable and requisite qualities of a priest, an unwearied performer of sacred rites and sacrifices.

His mind is most pure, always engaged in the worship of *Hari*; he also pays adoration to *Vishnu*.

Whose devotion is such as to secure to him the possession of whatever he may desire; which will ensure him the happiness of the immortals, as well as the blessings of this life, and the comforts desired by mankind; which will obtain for him whatever object he may have fixed his inclination on; which is auspicious, which grants him all kinds of bliss.

By the virtues of this *Sri Somnatha* good fortune is procured for men. He is lord of the moon.

Sridhara Maharaja shines forth pre-eminent in his race; by this prince is great respect shewn to the Brahmins of this deity.

The king pays devoted regard to this temple of *Sri Somnatha*, he bows to the renown of *Siva*: this temple is the abode of saints. It is inhabited by *Lakshmi*; by worshipping this *Siva's* feet, all sin is removed.

By beholding this temple even the stain of evil deeds becomes effaced ; pain and disease also disappear.

In *Samvat* of Sri Vikramaditya Raja, 1272, A. D. 1215, Vama-chhavadu 4th, being Friday, this Image was installed.

ART. III. — *The late Mr. James Prinsep's Correspondence, with Dr. Alexander Burn, on the subject of Indian Antiquities.*

The learned world at large, and the Indian public in particular, interested in penetrating the gloom that overshadows the history of this country, must accept with gratitude every relic of Mr. Prinsep's labours in Indian antiquities, which his ingenuity and genius served to adorn, and render more interesting to all. We have much cause for regret that he was not spared to complete them ; as his acquirements and industry promised to illumine what less gifted investigators must leave untouched.

SECRETARY OF THE SOCIETY,

To the Secretary of the Asiatic Society of Bombay.

DEAR SIR,—I beg to present, to the museum of the Society, eight letters of the late James Prinsep to my address.

The interest which attaches to the memory of one so deservedly loved, and esteemed, induces me to hope that they will be an acceptable present : — for there are many parts of them, from which such persons as are desirous of prosecuting inquiry, into the languages and customs of the ancient inhabitants of Western India, may obtain valuable hints and suggestions.

I believe that the figures on the copper plates and coins of Gujarat were what led him to the discovery of the ancient numerals, and in which much still remains to be done, for up to the time of his death, or since, I believe nothing farther has been done than is shown by the last letter of this series.



I remain, dear Sir, yours faithfully,

Bombay, 2d June, 1842.

A. BURN.

TO DR. ALEXANDER BURN, Kaira.

MY DEAR SIR,—I have submitted the copies of the two Copper plate grants, you have been so very kind as to send me, to the inspection of the Asiatic Society, at the meeting of the 1st instant, and I was directed to express the Society's best thanks for your zealous attention to its interests. I then proceeded to transcribe one of the plates, but although much of the text is readily legible, and all the essential part, regarding the succession of Rajas, might be put together and unravelled at once, it is plain that a great many passages must remain obscure, and a great deal of time be taken up in guessing contents, which, were the plates themselves here, or their exact fac-simile, would be rendered easy and distinct. I thankfully therefore accept your kind offer of sending round the plates, if you can find a convenient opportunity and a speedy one; but should the engraving be deep, and the letters not filled with dirt, you will find it very easy to take off an exact fac-simile, fully as good as the plate itself for the purpose of decyphering. Thus :—prepare some printing ink not too liquid, daub it on with a printer's dauber all over the plate, moisten some paper, (China will do,) place it carefully on the plate and press it on with the palm of the hand; it will come off with the letters in white on a black ground. I have adopted this plan even for lithographing them; passing immediately the impression, thus taken, through the rollers with a sheet of plain paper. I get the text unreversed; and this is passed on to the lithographic stone in the usual way.

I am much provoked that the Journals have not reached you regularly. Our opportunities by sea for Bombay are irregular, but all have been dispatched long since to the care of Mr. Noton; and, now that the dak rules admit of their going direct, I hope he has sent them on. Meantime I cannot refrain from sending a duplicate of the number containing the notice of Saurashtra coins, as I wish particularly just now to combine all efforts for the further elucidation of the old *Sak* coins, and their successors, of which Mr. Wathen has sent me one or two very good specimens. Any you can add, that are at all legible, I shall be much obliged for. The group I am now on have reverse  like a man; also , and then come the peacock reverse, the obverse containing always a head—but I must break off for the dak is going.

Yours very sincerely and obliged,

3d November, 1837.

J. PRINSEP.

MY DEAR SIR,— Your last two pages of Copper plate grants are so beautifully done, that the pundit could not find half a dozen errors in my transcript, and he read it off immediately. He says it is in a good style, and has a double meaning in parts, (a fanciful way of shewing wit). I shall give a full account in January, and by that time I hope we shall make out all of the former larger plate, which is in a rather older form of character, and either less accurately copied, or perhaps more worn on the plate, so that you could not make it out so readily: with care however it can all be restored. The termination is quite clear, and it is this that makes me now write thus hastily to you.

I have, I think, discovered a clue to the numerals of this ancient character; and I wish to get as many examples of them together, and as accurately copied as possible. In words your inscription gives *Samvat* 380, in figures $\text{N}^{\dagger}\text{Jm}$. The first (3) corresponds with the Cashmerian 3 nearly, and also with the old Nagari ३ or ३ . It is found on Mr. Wathen's plate thus $\text{३}^{\circ}\text{८}$, and reads I think 307—though he reads it, *Samvat* 9 (of the Balabhi era). It is 307 of the *Vikram Sam.* of course, and this is confirmatory of the Balabhi theory; also of the age of the alphabet, &c. &c. The same 3 is found on the Bhilsa monument; also a little modified on the Gúmsur grant. It is in your other plate also $\text{३N}^{\dagger}\text{३}$ (probably 345), but I should much wish for a more accurate fac-simile of this and every other date you can give me, along with the extract in words of the date, year, month, &c. wherein they occur. I can then carefully analyze them by the time the translation is ready.

I am overwhelmed with inscriptionary tribute from all sides! To-day a most curious and important inscription from Cuttack has come in, with a formal Bhuddist invocation १४४१८१ *namo arahantanam*. Glory to the saints, &c.

I can make nothing of your large medal; the others are all old acquaintances. The large bricks are found in Assam!! The glass seal is Mahomedan of course. I have now to scrutinize General Ventura's collection and never was so hard pressed.

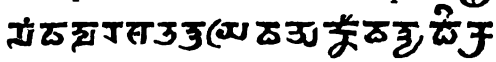
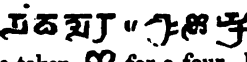


Let this plead my excuse for so hurried a reply to your welcome letter.

Yours sincerely,

Calcutta, December, 2d, 1837.

J. PRINSEP.

MY DEAR SIR,—You have partly anticipated my request in sending me your fac-simile of the 10th November. It contains another date written, and in numerals, and enables me to fix the value of the number 9, the very symbol which so puzzled us in the Bhilsa inscription ⊕

The written date is  *Samwatsara sat traya Chaturnavatty adhiko*, three hundred and ninety-four; then in figures  *vaisakh*, &c. I confess I should rather have taken  for a four, but unless there is some uncertainty in the copy, it must remain as now read. We have just before another figure somewhat similar, and very like the number in Mr. Ommanney's Baitul grant  The pundits find some difficulty in reading

my transcript of this and of your first plates. Can you not send me impressions, taken like the enclosed? Ink the whole over with printer's ink laid on with a dauber, and then lay on a sheet of China or other paper moistened, as for printing. Press it on with a dauber of cotton, or with the palm of the hand, and you will find the whole writing left white and quite legible, provided always the letters are not choked up with dirt or verdigris, in which case they must be cleaned first, and there is some danger in doing this, of mistaking the direction of the letters. The eye then comes into use. But in general the eye is so fallacious as not to be trusted. For proof, see the revision of the Allahabad inscriptions from the fac-simile, compared with Dr. Mill's reading.

With repeated thanks to you for your most welcome communications,
Believe me, yours sincerely,

19th December, 1837.

J. PRINSEP.

MY DEAR SIR,—The communication between our part and Bombay is so irregular, that I can never manage to be regular with my subscribers in that quarter of the globe. Nevertheless I fancy all the numbers have been sent, and I trust ere this your missing ones have come to hand—that is the later ones; the former ones and useful tables you shall have duplicates of. It will be better to defer sending them until the new dak regulation takes effect, which will enable them to travel at very moderate rates—3 or 4 Nos. in a *bangy* parcel.

I will use your permission to draw for the amount on Remington & Co. I have about Rs. 800 or 900 due in the Bombay Presidency, which

outs a sad hole in the balance sheet of the publication, but I know it will all come in some time or other. You ask me if copies of the inscription grants will be *acceptable* to me. Acceptable is too ordinary a word for the value I put on such articles! I have at this moment the more intense interest in them, because I have been fortunate enough to unravel the mysteries of the *lath* character—no fewer than 20 sheet samples (fac-similes) just received from *Sunchee* near Bhilsa, which have proved the half of the whole. This has followed on the heels of another discovery equally fortunate, viz. the reading of all the Khatyawar or *Saurashtra* coins with the long character. As the latter will most interest you, I enclose a proof of the legends, accounts of which you will have in the ensuing No. It gives me 11 kings of the *Sah* dynasty, all *elective* monarchs. The first line (as a sample) runs thus—

राज्ञःकुत्रिमस रुद्रसाहस स्वामि जनदमपुत्रस.

There are, as you see, no vowel marks. The obverses have *Greek* and perhaps *Pehlavi*, with the face of paramount Parthian sovereigns.

My last No. was full of coins that will also interest you; but you are in a field beyond my reach, and can pick up coins that will serve excellently to illustrate what we have. The स्तंभकृतेय is most likely *Samanta*

Deva? What surprises me, is its exact resemblance to the coppers of our *Chandra Gupta* series. Impressions (or duplicates) of our coins of this kind, and the little स्तंभकृतेय kind with names, would be valuable to me.


Item all of the peacock device with good legends, which I hope to make out immediately. The middle series or स्तंभकृतेय *Paramaras*, I am now going to look at again, but we have no very perfect ones. The more inscriptions of the *Siladityas*, &c. we publish, the better. There must be items of novelty and collateral interest in them. I have all the *Girnar* fac-similes, from Mr. Wathen, to digest—a labour of months, but I hope it will prove productive.

Believe me, ever yours sincerely,

23d May, 1837.

J. PRINSEP.

MY DEAR SIR,—I have delayed thanking you for your last most welcome reply, enclosing fac-similes of numerals and of one of the coppers, (which latter is very satisfactory when placed along side of your transcript, for it shews that you are scrupulously accurate,—indeed so true

is this, that I have had little difficulty in putting the whole of the three plates into modern *nagari*, now they are all read and translated)—but this is a long parenthesis. I was going to say that I delayed until I could send you proof of my not being asleep regarding dates on the coins. Yours arrived too late for insertion; but they shall come into another plate (of the  symbol coins), and you will see *one* very perfect one of the same kind, fig 22. sent me from Ougein, by Lieut. Conolly, in perfect preservation, but unfortunately cut off in the date 78 340? However I must turn from this to a still more prolific subject of interest in which you can aid me.

You know the *Girnar* inscription in the old character? Are you far from it, or it from you? Or do you know any one near the place who could endeavour to take a *fac-simile* on paper or cloth, particularly of the 2d paragraph on the left hand side. This edict of Asoka contains an announcement of a *Medical Service* established throughout his dominions, as far as Ceylon, and even in the rule of *Antiochus the Greek's* generals!! I should put no faith in such a result, had I not a duplicate of the edict, strange to say, from Cuttack!! There are but one or two letters varying in the two, and none in the name which is four times repeated. You may conceive how anxious I must be to have a copy that I can look upon as authentic, for Mr. Wilson's, though very good, has numerous uncouth letters which must necessarily be guessed. The paragraph in question runs thus (2d left hand).

𑀲𑀸𑀓 𑀅𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓
𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓
𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓 𑀧𑀺𑀲𑀸𑀓

"Every where in the dominions of Asoka, as well as among the sinless of other countries, as Chola, Pira, Satyaputa, Ketaliputa (Patalipute), as far as Ceylon, and in the rule of Antiochus the Greek, &c."

I have marked the doubtful passages, but will endeavour to send you the large page copy I got from Bombay, that you may, if possible, have it re-examined letter by letter, if it be out of the question to procure an impression from the stone itself. It is surely well worth the trial. I have deputed our librarian Lieut. Kittoe to Cuttack, on purpose to re-examine the Cuttack version, which is unfortunately erased in the names of the

places, beginning only with Antiochus' name, which is perfect. No time for more.


Your's very sincerely,

3d March, 1838.




J. PRINSEP.

MY DEAR SIR,—Your zeal and enthusiasm in the matter of antiquities far exceeds all I could have expected. To undertake a journey of 180 miles at this season, was so much beyond my hopes, that I wrote to Lieut. Postans of Bhuj, thinking to have two strings to my bow; and when I found on completing my *Girnar* tablets that they spoke of Ptolemy as well as Antiochus, and that the neighbouring Junagarh Sanskrit inscription spoke of Asoka's Greek Raja building a bridge over the *Palashini Nadi*, I thought it imperative even to do more than solicit private aid; so I wrote to Lord Auckland to have Lieut. Postans, (or any one else equally zealous and disposable,) deputed at the public charge to take minute copies of all, both inscriptions and buildings, and to survey the whole of this rich field of antiquities. No answer yet, but Lieut. Postans says he cannot yet leave, but has written to his friend, (perhaps Capt. Lang,) to do the needful.

Had I known Capt. Lang's name at first, I should have addressed him as the author of the cloth fac-similes I now possess; they are beautiful, but not perfect. To point out where a revision is desirable would require to re-copy the whole document. This will be saved by my referring you at once to the ensuing Journal, which will contain the whole *Girnar* inscription set up in type, and the notes appended will sufficiently point out the doubtful places; but an absolute fac-simile of the whole is far the easiest to take, and the most satisfactory. I give in the same Journal a comparative table of alphabets, which may be of some aid in your researches, and will add duplicate plates as well as a copy of the Junagarh Asoka inscription, in anticipation of my April number. The printer is perplexed with the nature of my materials, and cannot keep pace with my wishes at all.

The third inscription also at Junagarh, and I believe on the same stone, is almost wholly illegible, and yet it *ought* to be the plainest, being more modern than the others by some centuries; it is of the time of *Skandagupta*, whose coins have the  symbol, and is in good preservation.

It should be carefully copied by hand, as well as printed in fac-simile, and

reference to the alphabet of the 5th century after Christ in my table, will assist in making it out, or to the alphabet so called no. 2 of Allahabad. I write off in a great hurry, as you say you wait my reply. Should you be able to go I shall be exceedingly pleased, because your copper plate fac-similes are a promise of perfect fidelity of copy; not a letter or vowel mark has to be altered in reading these—your present one especially, which is verbatim the same as one of the former, all but the date. I am only puzzled about the vowel i. You make  the short i, and Wathen the long one, the short one in his plate being  without the dots. In some of your plates the vowel is written  but never without the two dots.

I am so engaged in these antiquarian researches, that I leave myself no room to speak of mulberries and silk; not that I do not fully feel the importance of your efforts in this way. I hope the Government has given you all the aid you want. Your account of *Balabhipura* makes me wish for a full description of the place, and whoever does go to Girnar should be an artist, for Dr. Wilson gives a most tempting description of the sculpture in and about the place, and it evidently ought to be illustrated in the most complete manner.

Do not start until you have ascertained from Capt. Lang or Lieut. Postans what they have done. Were it the season for a trip of pleasure, the most agreeable way would be to meet there, and each work in his separate department to make a joint essay or volume. I only wish I could hie thither too.


Believe me, ever yours sincerely,

22d April, 1838.

J. PRINSEP.

MY DEAR DR. BURN,—I hasten to announce the safe arrival of the Copper plates, and of the parcel of antique coins. The former are in a perfect state, and will doubtless serve to remove all our difficulties of the pen-transcript. I will print off a fac-simile in lithography, as of the Bulal plate in the January number.

The sight of the coins reminds me of your question how to clean decayed coppers. — Certes such as these are beyond cleaning; a hard brush, sometimes a metallic wire brush, answers the purpose.

One of your coins was a *date* one, and very acceptable of course. I think there are but two figures on the  coins, and fear they are only

dates of the reign. My reading of the Junagarh inscription you will see in the April number; it leads to another useful link,—the *Sah* dynasty are antecedent and posterior to Asoka! — and the name read by me *Kritrima* 𑀕𑀲𑀭𑀸𑀓 turns out to be *Kshatrapa*, which is the title of all the dynasty; in the inscription 𑀕𑀲𑀭𑀸𑀓 is the proper writing, the 𑀕𑀲𑀭𑀸𑀓

deceived me; kri, I now know (vide my table), should be for that date 𑀕𑀲𑀭𑀸𑀓.

The value of our coins of that group is thus enhanced and the cause of their Grecian obverse explained. But I can write no more. The object of this is to send the enclosed, (after perusal), through you, to Lieut. Postans, at Girnar; should he, as his letter to me seems to indicate, have started to save the monsoon. If not, act all in concert after receiving the *hookm* from Bombay. I incline to recommend a pause until winter, but this is against my curiosity I confess. I have gutted some Journals to put Postans, or whoever is deputed, in possession of materials; the remainder shall follow, and in a few days I hope to have the April number out.

I put in duplicates of the alphabets. The Journal must go I fear by *bangy* under present regulations, but I take the liberty of franking it, being in truth for the public service.

I enclose specimens of my new mode of printing coins.

On second thought, I make them into two parcels for two successive dates.

Your's very sincerely,

9th May, 1838.

J. PRINSEP.

MY DEAR DR. BURN,—Just too late was your last, or I had certainly introduced your theory of the 𑀕𑀲𑀭𑀸𑀓 and other symbols, on the Buddhist coins, along with my plate of the *Saurashtras*. I shall still have a famous opportunity of doing so when I give a plate of all the symbol coins with old character legends. I like your account of the 𑀕𑀲𑀭𑀸𑀓 much and have little doubt you have hit the right solution, and once in the true course we shall fall on all the rest. I have been questioning my pundit and find the whole can easily be explained by him from practices yet prevailing; as in the fire worship, they make the *Chardwara Marhanthi* ground 𑀕𑀲𑀭𑀸𑀓. The *tripundra* 𑀕𑀲𑀭𑀸𑀓 is also common to Brahmans; one would think it were the original

of craniological bumpism. I cannot exactly concur in your *yōni* theory; the name has too palpable reference to other matters connected with the *lingite* worship to be construed into *yavana*. The fact of hospitals now existing so generally is curious. I must hoard up all these illustrations against the time when I shall be able to put the whole into a connected form.

Your silver coin is most welcome, though not as you hope a new name; it is *Viswasah*, son of *Rudra Dama*; the little one is a *Kumara Gupta Mahendra*; you have cleaned the letters of this excellently. The surprising thing after all is that we find such small variety of names on our coins; passing through several centuries we should have surely more than 2 Maharajas. How comes it too that we have no *Siladityas*?

I have sent the No. of the Journal, (which I hope you will get with this,) through the Secretary of the Bombay Government, to Lang or Postans at Girnar, as either or both may be appointed; the former is most conveniently situated. I regret you are not of the party, as from all I hear you would have contributed, in geology, and botany, and other physical ways to the produce of the expedition.

I shall be anxious to see what you say to my numerals; they almost all depend on your plates. I hope others may still turn up to give us the 1, 2, 6, 7, in an unequivocal shape.

Your's very sincerely,

J. PRINSEP.

ART. IV.—*Hamaiyaric Inscriptions, from Aden and Saba, translated into English: with observations on the establishment of the Christian faith in Arabia.* By JAMES BIRD, Esq.

The elegant discourses of Sir William Jones, on the various nations of antiquity, published in the early volumes of the Asiatic researches, owe their fame, more to the celebrity of his name and the universality of his learning, than any profoundness of investigation which they display. In that early period of oriental research, they were calculated to excite curiosity, if they did not exhaust learning: and this result is no where more obvious than in his fourth discourse on the Arabs; where, relative

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[illegible]

Hamayonic Inscriptions from Aland or Tabar



Plate V
Inscriptions from Marab or Sabu continued.

No. 4.

ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ
 ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ ᱥᱟᱨᱟᱝ



to the characters, in which the old compositions of Arabia were written, he remarks,—“The Koran originally appeared in those of *Cufah*, from which the modern *Arabian* letters, with all their elegant variations, were derived, and which unquestionably had a common origin with the *Hebrew* or *Chaldaick*; but, as to the *Hamaiyaric* letters, or those which we see mentioned by the name of *Almusnad*, we are still in total darkness, the traveller *Niebuhr* having been unfortunately prevented from visiting some ancient monuments in *Yemen*; which are said to have inscriptions on them: if those letters bear a strong resemblance to the *Nagari*, and if a story current in India be true, that some *Hindu* merchants heard the *Sanskrit* language spoken in Arabia the happy, we might be confirmed in our opinion, that an intercourse formerly subsisted between the two nations of the opposite coasts, but should have no reason to believe, that they sprang from the same immediate flock.” That which was inaccessible to *Niebuhr* has, through the enterprize of Officers in the Indian Navy, and recent surveys of the Southern Coast of Arabia, been laid open to our investigation: and we can only wonder that a subject of such interest, connected as it is with the history of *Arabia* and *Ethiopia*, should have been so long neglected. The profoundly learned investigation of Professor Gesenius, on the subject of *Phœnician monuments* and *Palæography*, * will greatly assist those in their researches who may be disposed to turn their attention to the origin of the *Hamaiyaric* letters; which, consisting of consonants possessing inherent vowels expressed by characters, supported on props, were called by the ancient Arabs *Al-Musnad*, or the propped character.

This in the opinion of Gesenius was remotely derived from the *Phœnician* letters, and had its origin among the *Hamaiyar* Arabs of *Yemen*, giving rise to the modern *Ethiopic*, almost similar to the ancient character. It will be our endeavour to shew in another paper the peculiarities of both alphabets, and whence they originated, but in the mean time confine our observations to the translation of the present *Hamaiyaric* inscriptions submitted to notice, which have been brought to light through the exertions of Captain Haines at Aden, and the late Dr. Mackell of the Bombay Medical Service; who, while resident at *Sanaa*, obtained them from the neighbourhood of *Mareb* or *Saba*. The stones, on which Nos. 1, 4, and

* *Scripturæ Lingueque Phœnicie monumenta*. Guil: Gesenii p. 84.

5, are engraved, may be seen in the museum of the Bombay Branch of the Royal Asiatic Society, and were presented to the Institution by Dr. Smyttan: in whose possession I also inspected a gold coin, brought from *Mareb*, which was probably of the time of *Naosherwan*, and supported an inscription in Zend characters.

The first inscription, engraved on a circular polished slab of white marble, found at the depth of twenty feet in digging some old ruins at Aden, was sent from thence by Captain Haines; and is supposed by him to relate to the period when the Christian chiefs of *Azum*, or *Ethiopia*, possessed themselves of Southern Arabia and re-established Christianity. This would make the inscription as late as A. D. 521; while its context appears as written when Christianity was first established in Arabia; or rather when *Aden* was first made the seat of a resident Bishop. This latter event took place during the reign of the Emperor Constantius, about A. D. 356, when *Zafar* ظفار, or *Saphar*, became the Archiepiscopal seat of Christianity among the *Hamaiyar* Arabs, and a Church and Bishop were established at Aden.*

This inscription reading. — SHAKIR SHARAA ZA NABAK BADWIY
MAGGA SHAMA BA ABADAN PAPA RAS ADEN.

شا کر شرع ذ انباق بدوي مککا شام بابادان پاپا راس عدن

May be translated:—“*He the Syrian philosopher in Abadan, Bishop of Cape Aden, who inscribed this in the desert, blesses the institution of the faith.*”

Aden, the *Arabia emporium* of the Romans, was prior to the Council of *Chalcedon*,† the seat of a Christian Bishop, who was subject to the Metropolitan of *Zafar* ظفار; under whom also were the Bishops of *Najran*, *Hormuz*, and the *Island of Socotra*. These Churches were subject to the Jacobite Patriarch of Alexandria, until between the years A. D. 435 and 476, when the Nestorians, who spread themselves over Southern Arabia, seceded from the orthodox faith, under the Archbishops of Seleucia and Persia.‡ Soon after the latter date, or A. D. 535, Cosmas Indicopleustes writes there were Nestorians in India, Arabia Felix, and the island of Socotra, whose Bishops and clergy were ordained from

* Bibliotheca Orientalis Assemani: vol. iii. par: secunda p. 719 and 784.

† The council of Chalcedon was held A. D. 450.

‡ Assemanus; tom. iii. pag. 77 ad pag. 80.

Persia. The town of *Abadan*, situated on the river Tigris, and distant from *Basra* about one and half a day's journey, being mentioned in the Aden inscription, would render the supposition probable, that, in place of having reference to the first institution of the Christian faith in Arabia, it bears allusion to the propagation of the Nestorian creed. In the modern Persian Dictionary, *Abadani*, signifying a native of *Abadan*, is the name of a man celebrated among the Arabians, for his learning and piety; and offers a curious confirmation of this Aden inscription, and of what we otherwise know from history. In the above inscription the Arabic *شاكِر* *Shakir*, or *Ethiopic* ሻክረ, is written *سقر*; the original *Hamayyaric* using *sh* and *s* indiscriminately, and having only one character of the letter *k* *ⲕ* in place of two as in the more modern alphabet. *Magga*, a corruption of the Greek word *ΜΑΓΟΣ*, signifying a Persian philosopher, has in the inscription the evident meaning of priest; as both Arabians and Ethiopians were wont to designate the priests, or presbyters of the Christian religion, *Kahans* *كاهان*, or sorcerers. Regarding these Major Price, in his essay on the history of Arabia, tells us, on the faith of the *Tarikh-Tabary*, that "the *Kahans* are described as a class of men, found both in *Arabia* and *Syria*, professing to give information on things unseen, not yet in existence, or to come to pass at some future period; to discover thefts; to describe the circumstances of an untold dream, and to furnish the interpretation: in short without any kind of previous explanation, to give to individuals, in all occurrences of life, a satisfactory reply to every inquiry. In Arabia, these soothsayers bore the name of *Kahans*, but the *Oustauds*, or masters, in this occult profession, at the period under consideration, were two persons of the name of *Shakh* and *Setteiah*, to whom all in Arabia looked up for instruction in the mysteries of the art.

No. 1 of the inscriptions from Mareb is executed over the figure of a person on foot, and reads,

بدوي عداوا

BADAWY ADAWA,

signifying a *Bedawin* of the opposite coast; from which it would appear that these figures must have been taken from a Christian Church, where-in were represented the characters of the several tribes constituting the *Ethiopic* government of *Axum*, and under whose power the country of

Southern Arabia more completely fell, about the year A. D. 521; when the *Nejash*, or ruler of *Abyssinia*, named *Elesbaan*, conquered the Hamaïyar Arabs of Mareb, and put to death their Jewish chief *Damaan*, otherwise called *Zû-Nowaas*.* The inference we have drawn from inscription No. 1 is supported by the evidence of inscription No. 4, which reads,

رب زان بجاء شوا عدوس

RAB ZAN BUJA SHOWA ADAWASY,

and may be translated,—“*The Lord mounted the Bojas of Showa, and caused them to cross the sea.*” The modern tribe of *Beja*, or the *Bajaditæ*, called in the Greek inscription from *Azum*† *Bougæi*, *BOYΓAEI* were a nomadic people, who inhabited the Egyptian desert, westwards of the Nile, and possessed the gold, silver, and emerald mines in that quarter. They are the ancestors of the modern *Ababdi* and *Bisharin tribes*, and are known in the country of *Nubia*, between the first and second cataracts of the Nile, by the name of *Kanuz*. Masudi, writing regarding them in Hej. 330, A. D. 941, says that the *Bujahs* occupied the tract of country, situated between the sea of *Kulzom* and the *Nile*, were at enmity with the African tribe of *Nubah*, had mines of gold and emeralds in their country, were ruled by a chief of their own, and, on adopting the faith of *Islam*, intermarried with the Arab tribes of *Rabiah*. Their Chief, when *Masudi* visited Egypt, was *Abu Merwan bin Ishak*, belonging to the family of *Rabiah*, who was accompanied by three thousand persons of his tribe mounted on camels. This last statement of the historian illustrates the character in which the *Bujah* tribe is represented by No. 4, and tends to shew that they were carriers of merchandize, between Arabia and Egypt, from the earliest times.

* See Major Price's history of Arabia, *Bibliotheca orientalis Assemani*: Tom. III par: secunda p. 503.

† The Greek inscription of the time of *Aeizana*, king of the *Axomites* and *Homerites*, was copied from a stone at *Azum*, and may be seen in Mr. Salt's voyage to *Abyssinia*, p. 411. The date of the inscription is A. D. 356; as the Emperor *Constantius* sent an embassy, through *Theophilus* the Indian, to the brothers *Aizana* and *Saizana*, for the purpose of persuading them to relinquish the doctrines of *Athanasius*, and adopt those of the *Arian Patriarch* *Georgius*.

Inscription No. 2 may be read MYNETY SABAAN ZABYA ZA OZA
SABAA ZAMATA. مینتی ثبا عن فا بی زاعزی سبأ فا مت

and signifies—"The monastery of the Pagan Sabeans: this is Oza of Shaba destroyed."

The Sabeans, who derived their name from *Shaba* שָׁבָא, otherwise spelt in Hebrew *Saba* שָׁבָא, were sometimes called *Mendai Yahya*, or the Christians of Saint John the Baptist, who came from Galilee and settled in Arabia, and Harran on the Euphrates. They gave name to a particular form of the Syriac alphabet called *Mendæan* or Sabeian;* and, while Christians in name they were Jews in character, following the principles and practices of Pagans. D' Herbelot, on the authority of *Ibn Khallikhan* and other Mahomedan authors, says that they were Syrians or Chaldeans; differed from the *Magi*, or followers of Zoroaster, and worshippers of fire; professed a religion, composed of Jewish, Christian and Mahomedan articles of faith, of which the following are the principal:—They worship one God, venerate the angels and stars, turn in praying towards the North and sometime South, read the psalms of David, but chiefly believe a certain book written in the Chaldaic language, and ascribed to Adam. They also produce certain moral compositions, of which Adam, Seth, and Enoch are said to be the authors, pray seven times daily, fast during the month preceding the vernal equinox; hold in honor *Harran*, a city of Mesopotamia, whither they are wont to go on pilgrimage; believe in Sabin the son of Edris, and think that he is buried under one of the pyramids of Egypt. *Harran*, or Hellenopolis, where the worship of idols prevailed, seems to have been one of their earliest seats, and is still held in veneration by the now remaining followers of the sect.† They flourished cotemporary with the *Manicheans*, and had many principles of belief in common with them. After the manner of the Syrians, Phœnicians, and earliest Arabs, they worshipped the Moon, or Venus, as *Baalat Samin*, the Queen of heaven, one of the three Arabian idols, called *Lat*, *Manat*, and *Ozza*, and which are mentioned in the *Kuran*. The latter is noticed in the above *Hamaïyaric* inscription under the name of *Ozza*—العزي, which Sharistan and commentators on the *Kuran* say was an idol or tree, held sacred.‡

* See Grammatica Syriaca Joannis Davidis Michaelis, p. 17.

† See Assemanus Tom. III par. secunda p. 192.

‡ Specimen Historiæ Arabum Edvardi Pocockii p. 92. Assemanus vol. III par. secunda p. 582.

About the end of the fourth century of the Christian era, the worship of sacred trees, according to Cedrenus, became common in Egypt and the East; under which form *Nanza*, *Alitta*, or *Ozza* of the Arabs, appears to have been worshipped; and little doubt can exist that *Urania*, or *Venus*, derived her latter appellation from the Ethiopic ሀዘ Oza signifying a tree.

No. 3 inscription appears incomplete, and to want the right hand portion of its three upper lines; but, from what can be made out from its context, it appears to relate to the destruction of a temple of the moon. The last portion of it reads,

SABA WAHAMI WORHAKI MAGGANA سبأ واهمي ورهقي مگلنا
and signifies, *the superstitious Magi, or worshippers of the Moon of Saba.*

No. 5 inscription is of great interest as relating to the history of one of the Nestorian Bishops, called, in the chronicles of *Dionysius*, *Zacchæus*; who, about the year A. D. 759, was ordained by the Patriarch George, and set over the tribe of Arabs called *Charmæ*. Below his image, sculptured on a piece of white marble, that was probably built into the wall of a Church, the following is inscribed,

RAB SANA WARIS SHAVA INAD ZA AUM GHAHAS SADINA BA ANDAM.—MUAZZANA RAB AUM ZAGHA MAR,

رب منأ وارثشوا ايناد ذا عام گاهس سادن با اندام معزنا رب عام زاگامار

Of which the translation is,—*The Lord of peace, heir of Shava, who by right superintended the Church of the perverse remote nations. The venerated master of the people, the Saint Zagha.*

The people called *Charmæ*, over whom *Zacchæus* of the above inscription was placed, are mentioned by Pliny as people of Arabia, in the vicinity of the *Minæi*; who were southwards of the *Atramiæ*, or people of *Hazramaut* حضرموت. Their chief city *Charma* was according to *Assemanus* * an episcopal see, subject originally to the Jacobites, but subsequently fell under the power of the Nestorians, and was united, under their Metropolitan, with Basra (Bassora) and Behrain. It appears to be the same place as mentioned by others under the name of *Sciarma*, and may be identified with the modern *Ras Sharma*, or *Cape Sharma*, on the southern coast of Arabia; distant from which, only a few hours, lies the Bedawin town of *Dees*, where the late Mr. Hulton and Mr. Smyth of the Indian Navy, found, near *Jabal Aaledma*, in the country of Ham-

* Tom. III par secunda p. 737.

*Plate VI.
Of half the Original Size.*



Frampton's Lith.

mam, those Hamaiyaric inscriptions, which are published in the *Journal of the Royal Asiatic Society*.* They belong to an early period of the Christian era, and were written, as appears from some of them, when the Romans had free intercourse with the Southern Coast of Arabia.

One more point, in the inscription just translated, remains to be noticed. It is doubtful whether the name *Shawa* has here application to the *Save* of the *Periplus*, situated three days from *Moosa* and thirteen from *Aphar*, or زافار *Zafar*, in the country of *Sanaa*, or whether it bears reference to *Mareb*, or *Saba*, the kingdom of which, Pliny tells us was otherwise called *Save*.† This last is written Σαρῆ by Ptolemy and Arrian.

In concluding our observations on the above very curious inscriptions from Southern Arabia, which have reference to the establishment of Christianity there, it will be expected that some information be given, relative to the origin and progress of the Christian faith in these parts, prior to the foundation of *Islamism*. The inscription sent from Aden belongs probably to the time already fixed for its date, the middle of the fifth century; and the inscriptions, said to have been brought from *Mareb*, or *Saba*, were in all likelihood found at *Zafar* the ancient Metropolitane seat of a Bishop.

The Hamaiyar Arabs of Yemen, or Arabia Felix, otherwise known by the name of Sabeans, were in their origin of Jewish descent, and of the same general stock as the *Azumita* of the opposite coast, more generally called Ethiopians. In classical history they are known by the names of *Homerita*, *Atramita*, and *Saphorita*; the first of which appellations seems to have been taken from their tribe, the two latter from their country. During the early ages of the Christian Church they were often confounded with the Indians, on account of their vicinity to the Indian Ocean; and while the *Azumita*, *Ethiopes* or *Abissini*, were called, as regarded their relative situation to Egypt, the *nearer Indians*; the *Hamaiyar Arabs* were denominated the *ulterior* or *interior Indians*, who live beyond. In the sacred Scriptures, and by the Hebrews, both these families of Arab Jews are called the children of Cush, and are thus mentioned by Issiah, Chap. xlv. v. 14, "the merchandize of Ethiopia and

* Vol. V. p. 91.

† Plinius lib: VI. Cap. XXXIII, and my observations on the coast of Arabia, *Journal of the Royal Geographical Society*, vol. IV.

of the Sabeans shall come over unto thee." In the age of Solomon they were subject to the Queen of Sheba, who by general agreement was Queen of the South, and Mistress of Habæa; and who by Josephus is called "Queen of Egypt and Ethiopia," because she exercised control as would appear, over the *Bejas*, who were of Arabian origin, and possessed the western shore of the Red Sea from the earliest times. Herodotus, lib. 7 § 70, distinguishes them into two tribes, the Asiatic and African; the former of which were to the East, and served with the Indians in the army of Xerxes; the others were westward, and had crisp hair like that of Africans.

These families of Arabs, who inhabited either coast, worshipped, originally like the Jews, one God; but soon mistaking the creature for the Creator, and, following the example of other nations, adopted the worship of idols. Christianity, defaced by many Pagan notions, was introduced among them, at a very early period of our era, and some are disposed to think that the Magi, who came to worship Christ at his birth, were Arabs from the land of *Saba*, asserting that what was prefigured, by the Queen of Sheba bringing gifts to Solomon, the type of Christ's coming, was fulfilled in the persons of the Magi, who under the guidance of the star, came to inquire after a king of Israel, whom they happily found.

The light of the gospel was originally brought into Arabia, as some think, by these evangelical Magi; and was further diffused by the Apostle Paul, who went not to Jerusalem, where were Apostles before him, but departed for Arabia, and after three years returned to Damascus.* Other Apostles, who evangelized Arabia, were Matthew, Bartholomew, Thomas, Mathias, Timon the deacon, Adcous, and Mares. Timon was one of the seven deacons of the Church of Bostra, in the Hauran, which was the episcopal seat of Christianity in Arabia, or rather Syria, until after the Nicæan Council, A. D. 325, when Petra in Desert Arabia was made the seat of a Bishop. Soon after this period the *Azumitæ*, during the reign of the Emperor Constantine A. D. 327 were converted to the Christian faith † by Frumentius; and the *Hamaiyar Arabs*, or *Homeritæ*, who were of the same stock and had received the Christian religion from Saint Bartholomew, adopted the Arian faith, A. D. 354, under the instruc-

* See Epistle to the Galatians Chap. 1 v. 17.

† Socrates Eccl. Hist. lib. 1 cap. 19.

tions of *Theophilus* the Indian monk and Bishop, who was sent by the Emperor Constantius to make a treaty with the Hamaiyar Arabs, and obtain permission for the erection of Churches to accommodate the converted Arab Christians and Roman navigators of the same faith, who frequented the Arabian shores.*

Baronius, who quotes from Nicephorus contends that *Adiabene* on the Euphrates was the country of the Arabian Bishop Theophilus; while others have endeavoured to shew that he was a native of the island of Deo, on the coast of *Khatiaur*, who having brought over the Arabs from the errors of the Gentiles, went into Aria, or *Khorasan*, where he built three churches. Philostorgius asserts that, having completed his mission among the *Homeritæ*, he sailed from the island of Deo, his native country, and visited other quarters of India; where, finding Christians following a wrong faith, he set them right; and then returning from India to Arabia, and Ethiopia, he joined the Roman merchants trading to these parts, and departed for Constantinople, where he was received with much honor by the Emperor. Regarding the *Homeritæ* at this time the reader *Theodorus* observes, "Immireni, gens est Persis subjecta, ad extremos noti fines habitans. Et ab initio quidem Judei fuerant, jam inde a Regina Austri, quæ ad Solomonem olim venit. Postea Gentiles facti sunt. Anastasii vero temporibus Christianam religionem amplexi sunt, et Episcopum acceperunt."† Philostorgius corrects Theodorus by substituting the name of the Emperor Constantius in place of *Anastasius*; in which he is right, unless it be admitted that the passage from Theodorus has reference not to the conversion of the Arabs under Constantius, but to the more complete one under the Emperor *Justin*, A. D. 525; when the Nejash of Ethiopia, *Elesbaan*, conquered the *Hamaiyar Arabs*. Considerable obscurity regarding the transactions of these two several periods exists in the history both of Arabia and Ethiopia.

Previous to this period, however it is evident from the Syriac annals of the Nestorians, and the Aden inscription, that the people of Southern Arabia, between the years A. D. 435 and 496, had seceded from the Christian creed of the Patriarch of Alexandria, and joined the Nestorians of Abadan. It also appears from the testimony of *Cosmas Indi-*

* See Assemanus tom. III par. secunda p. 599, where Nicephorus is quoted on the faith of Baronius.

† Theodorus Lib. II pag. 567; and Assemanus tem. III part secunda p. 600.

copleustes, A. D. 535, already noticed, that the churches of Southern Arabia were under the Nestorian Archbishop of *Seleucia*, in Persia : and that, long after the propagation of the Mahomedan creed, Christianity had not become extinct in Southern Arabia. Inscription No. 5 and the Nestorian Church histories bear evidence that *Zacchæus* was presiding there in A. D. 759. The whole of this hitherto unexplored region is full of interest to the Christian and Historian : and we sincerely hope that some of the officers of the Indian Navy may ere long, find opportunities of penetrating to *Mareb*, and laying open to the eyes of the European world, the yet undiscovered treasures of *Saba*.

ART. V.—*Geological Observations on the composition of the hills and alluvial soil, from Hydrabad in Sindh, to the mouth of the river Indus.* By H. J. CARTER, Esq., of the *Bombay Medical Service*.

On descending the river Indus from Hydrabad, it will be observed, that this town stands on the northernmost extremity of a small range of hills, which extend about twelve miles along the left bank of the river, rising from fifty to sixty feet above the level of the surrounding plain. They are characterized by their light colour, their sterile aspect, and their isolated position in the alluvial plain of the Indus, being separated, for a long distance, from the lower hills of the Hala range, which are on the opposite side of the river, and having no other high land visible from them in any other direction. In their form, there is nothing particular, excepting that they terminate above in a level plain, covered with loose stones, the petrified portions of a former superposed stratum, and their base having been washed at different periods by the waters of the Indus, may partly account for its irregularities.

They are composed of a cretaceous, marly deposit, interstratified with a semi-crystalline, fawn-coloured limestone. Towards their summit the marly deposit is white and cretaceous, and the limestone in horizontal strata of irregular nodules, abounding in marine fossils, but towards their base the limestone strata become thicker, and the marly deposit more plastic and yellow.

The structure of the limestone is semi-crystalline, of a fawn colour, and

an uneven fracture, or more or less filled with cavities, formed of the moulds and impressions of marine shells.

Though these hills abound every where in marine fossils, yet the fossils themselves are almost entirely composed of the internal casts of the shells they represent, the carbonate of lime being replaced by the mass in which they are imbedded. Of the most common that are found among the loose stones on the summit and sides of these hills, are specimens of large crustaceous animals, cephalopoda, univalve and bivalve shells. In the collection presented to the Society, will be found the claw of a large crustaceous animal. Two specimens of Nautilus, and several univalve and bivalve shells, of which the most characteristic and most commonly met with, are represented in the accompanying plates. Independently, however, of these, there is a small ovoid fossil, formed of concentric layers, not unlike a grain of barley, both in size and shape, but rounded at each extremity, and grooved and ridged longitudinally, with the appearance of transverse lines across the ridges. On account of this little fossil being found in great abundance throughout these hills, it may be considered as particularly characteristic of their formation. It will also be found delineated in the accompanying plate.

Having left the range of hills just described, the river passes for some distance through its own alluvial plain, unbounded by any rising ground on either side, until it approaches Jerruk, when a number of irregularly scattered hills make their appearance on both sides of the river, some of which are conical and stand isolated in the plain, while others border on the margin of the river. They are of a deep ochre colour, horizontally stratified, and almost entirely composed of the fossilized remains of minute polythalamous shells. About half way between their base and summit, is a sandy stratum in which a small *Gryphæa* is found, resembling *G. virgula*, characterizing some of the upper Oolite formation in France. It differs from *G. virgula*, however, in being less elongated, less curved laterally, smoother externally, and more deeply carinated.* This shell appeared to be of much more recent date than the other organic remains, of which the rock is composed, both from its general appearance, and from not having partaken of the colour of the mass in which it was found im-

* The specimens of this shell were too much injured on arriving at Bombay to admit of being delineated.

bedded. At the base of these hills many veins of gypsum present themselves, irregularly traversing the rock, about an inch and a half in thickness. Specimens of the rock will be found in the collection presented to the Society, and some of the polythalamous shells, of which it is composed, are delineated in the accompanying plate.

After passing these hills, which extend along the right bank of the river for a few miles, the Indus winds its course through an alluvial plain of great extent, until it arrives at its exit, where its banks terminate in the low marshy land of that district.

Composition of the alluvial soil of Sindh in the neighbourhood of Hyderabad.

The alluvial soil in the neighbourhood of Hyderabad, is chiefly composed of a marly deposit, corresponding, in colour, composition and plastic property, with that of the adjacent hills; added to this there is a considerable quantity of mica mixed with it, and its dark stone colour is owing to the presence of an oxide of iron, and probably some carbonaceous matter. When exposed to the oxidizing flame of the blow-pipe, it becomes red, (thence the colour of the bricks of which the fort of Hyderabad is partly built), but on being mixed with charcoal and reduced, the marly portion becomes white, and the dark particles that remain, are attracted by the magnet.

Throughout the hills and the alluvial deposit for many miles round Hyderabad, there does not appear to be a single grain of quartz, although at Omerkote there is an admixture of chalcedony and agate in miliary grains to such an extent that it forms more than one-third of the soil.

In addition to the fossils in the hills round Hyderabad, there is a quantity of brown Hæmatite scattered over their surface, and it will be observed from one of the fossil shells in the collection presented to the Society, that this is originally formed in the centre of the fossils themselves.

INDEX TO PLATES VII. AND VIII.

FIG 1. Lateral view of the internal cast of a Nautilus $12\frac{1}{2}$ inches in its longest diameter.

- a. Front view of the same specimen.
- b. Section to shew the position of the syphon.

Plate VII.

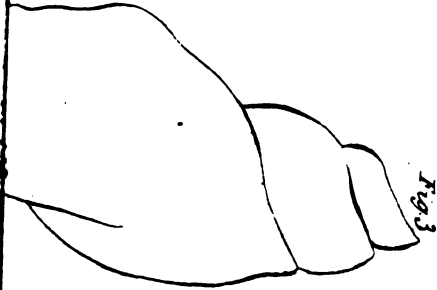
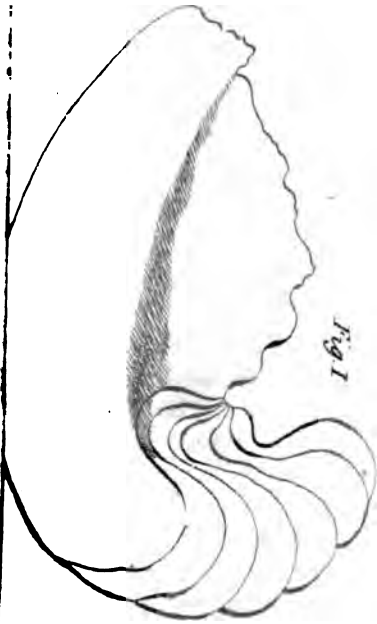


FIG 2. Lateral view of another specimen with round keel, 3 inches in its longest diameter.

a. Section to shew the position of the syphon.

FIGS. 3, 4, 5. Internal casts of univalve shells.

FIGS. 6, 7, 8. Internal casts of bivalve shells.

FIGS. 9, 10, 12. Specimens of multilocular fossils, characteristic of the hills about Jerruk.

FIG 9. Specimen natural size. a Superficial view. b Section both magnified.

FIG. 10 Specimen natural size. a Superficial view. b Lateral view magnified.

FIG. 12 Specimen natural size. a Horizontal section. b Vertical section magnified.

FIG 11. Natural size of a fossil characterizing the hills in the neighbourhood of Hydrabad. a External view. b Section magnified.

ART. VI.—*Some desultory Observations on that class of Monuments, still extant in Scotland, called Runic Stones, supposed to belong to an age anterior to the date of the earliest writings treating of Scottish history; with a catalogue of some of the most remarkable of the Stones now extant.*
By GEO. BUIST, LL. D.

[The following paper was drawn up many years ago, but permitted to fall aside. It was laid before the Society as connected with oriental antiquities, with a view to its remaining for reference in their archives, but without any idea of its being printed in their transactions. It is now by desire of the Society published as presented: the want of books of reference and the numerous avocations of the writer depriving him of the power of removing its imperfections by correcting or recasting it as he could have wished.]

RUNIC STONES.—A designation promiscuously applied to two very different and dissimilar classes of relics, the origin of one of which is probably attended with as much mystery and interest, as any thing which has occupied the attention of the antiquary. We shall reserve the consideration of the first of these, till after we have shortly noticed that class of monuments, entitled to the designation of true Runic remains, these being distinctly attri-

butible to a Danish origin. Olaus Wormius, a learned Dane, in a work entitled "*Danicorum Monumenta*," London 1643:—and Kysler, in a work entitled "*Antiquitates Septemtrionales*," published in Hanover in 1720, fully treat of the real monuments of Denmark, and give us representations of those in innumerable illustrations. They generally consist of very massy and large blocks of stone hewn into the form of crosses, or on which a cross, and in this case generally the Maltese cross, is sculptured. Besides these, strange and fantastic groups of men and of animals, with many monstrous representations of incongruous creatures, are presented us. The serpent is a prevailing emblem, while the human figures are often provided with the heads and feet of animals, or the wings of birds. The Centaur, as delineated in classic sculpture, is not unusual, and the most singular and intricate interweavings of unintelligible tracery characterize the whole. These monuments seem to abound in Denmark and Norway; they are usually inscribed with Danish or Icelandic characters, the legends merely intimating that they were erected by such a person in honour of some friend or relative. A good specimen of this class of stones, was some years ago sent from Sweden for the use of the Scottish Antiquarian Society, and is now placed on the castle hill of Edinburgh. The scroll in this case, as in many other similar ones, is formed by the waving grooves which define the outline of the serpent. Another class of true Runic monuments with inscriptions, is found in the Isle of Man and in other places in Britain. A collection of very beautiful and apparently accurate drawings of these, by Mr. Oswald, was published in the Transactions of the Antiquarian Society of Scotland, for 1822. In many points, they greatly resemble the crosses about to be described in the latter part of this paper. The form of the cross itself is the same, and many of its concomitant ornaments are similar, as are the monstrous representations of men and of animals with which they both abound. But the Manx crosses are all inscribed with characters closely allied to the modern Icelandic, not one of which is ever to be found on the other class of relics; and the singular, symbolical characters, as well as the picture writing with which the latter often abound, and by which they may at all times be distinguished, are wholly wanting in the former. They are ascribed to the middle of the 10th century. The celebrated Ruthwell stone is worthy of a separate notice, though it probably belongs to the same class as those of the Isle of Man. It has been minutely described by the Rev. Dr. Duncan of Ruthwell, both in the Antiquarian Tran-

Notes of Copper-plate grant No. 1.

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ಶ್ರೀಮದ್ರಾಜಾಧಿಪತಿ
ಶ್ರೀಮದ್ರಾಜಾಧಿಪತಿ

St. Agnes Stone.



*Full sized from
the St. M.*



near Forres,) covered with rich and elaborate carvings, and in most cases, besides these, representing in low relief a cross of Calvary or being them-

selves cruciform. There are, however, numerous cases wherein the stone is impressed with a few rude but characteristic symbols without symmetrical or intelligible sculpture; and a number, smaller still, where a richly sculptured sarcophagus, which those of Egypt scarcely rival, takes the place of the symbolized monolith. In early ages, when written characters were little known and still less resorted to for ordinary purposes, the simple and natural practice of pictorially representing notable events, formed a convenient and universally intelligible substitute, for writing; because it appealed to a power of discerning the connection betwixt an action or series of actions, and their detailed similitudes possessed and exercised by all. This was the natural source of picture-writing, and a parallel case seems to have brought language itself into existence. It was the practice in early times, to detail on the monument of a warrior, the leading characteristics of his life, and hence, most probably, the source of those richly and elaborately detailed scenes represented on most of the monuments under consideration, and which in all probability, were, while understood, pictorial biographies of those for whose sake they were erected. It must at once be admitted, however, that very many of these carvings receive no elucidation from this view of the matter, and that the exotic or monstrous animal forms, and the mystic combinations of these which we observe, (amongst which, however, some system manifestly prevails,) are in the present state of our information, totally inexplicable. The fact of the abundance of tropical animals, as the lion and the monkey, so conspicuously detailed on the St. Andrew's Sarcophagus, and to be found on many other stones besides; of the elephant on Sueno's pillar, and apparently in a disguised form on a vast proportion of other monuments,—and represented according to O'Brian not on the crosses alone, but some of the round towers, (as that of Brechin for instance which has been well noticed in the pictorial history of England,) is beyond measure singular.

The existence of purely classical sculpture amongst the ornaments, and of classic monsters, as in the Aberlemno Centaur; and of symbols so strikingly Egyptian as that of Essie cross, is another feature of extraordinary mystery. The most characteristic figures of these stones, however, are those of a set of monstrous looking creatures, such as the lizard-like animal, on the St. Medoes cross (vide Fig.) the interwoven serpents with two, or a multitude of heads, and occasionally complicated limbs; and which are always systematically intertwined

with each other, like the warp and woof of a web (of which the corner stone of the St. Andrew's coffin furnishes an example);—the long eared, long billed, cockatrice-looking creature; and above all, an animal probably meant to be a representation of an Elephant, though it would be difficult from its distortions, to point out to what class of actual living creatures it was meant to be considered allied. In fact, whenever the simple emblematical picture is departed from, the whole remaining animal images on these stones are invariably monstrous. It is singular that the purely symbolical figures are specially alluded to by Boethius, and have scarcely ever been noticed by any subsequent author. "Boethius, is willing" (says Pennant) "that these engraven pillars should be supposed to have been copied from the Egyptians, and that the figures are hieroglyphic or expressive of meaning, as those found in the cases of mummies and sculptured obelisks of Egypt. The historian's vanity in supposing his countrymen to have been descended from that ancient nation is destitute of all authority, but his conjecture that the figures we so frequently see on the columns of this country, had their signification, and were the records of an unlettered age, is so reasonable as to be readily admitted." In this case the acute and observant traveller's censure is much more liable to criticism, as we shall afterwards more fully see, than the hypothesis of the able, but unfortunately unauthentic historian.

The symbolical figures, by one or more of which nearly the whole of the monuments under consideration are characterized, and the few which want them may be readily identified by their style of carving, are 1st a zigzag, ornamented at both ends with sceptre heads. Fig. 1st—Pairs of circles of

Fig. 1

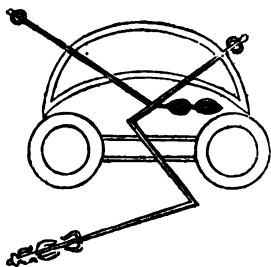


Fig. 1

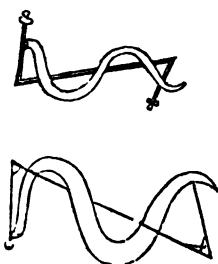


Fig. 2

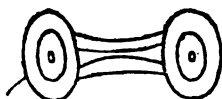


Fig. 2

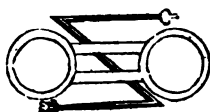


Fig. 2

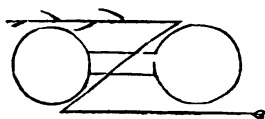


Fig. 3

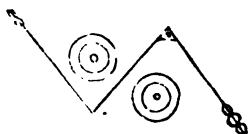


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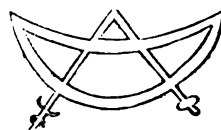


Fig. 5

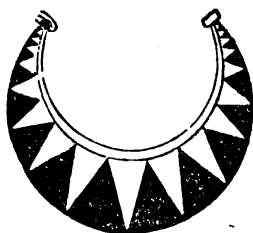
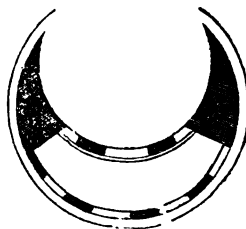
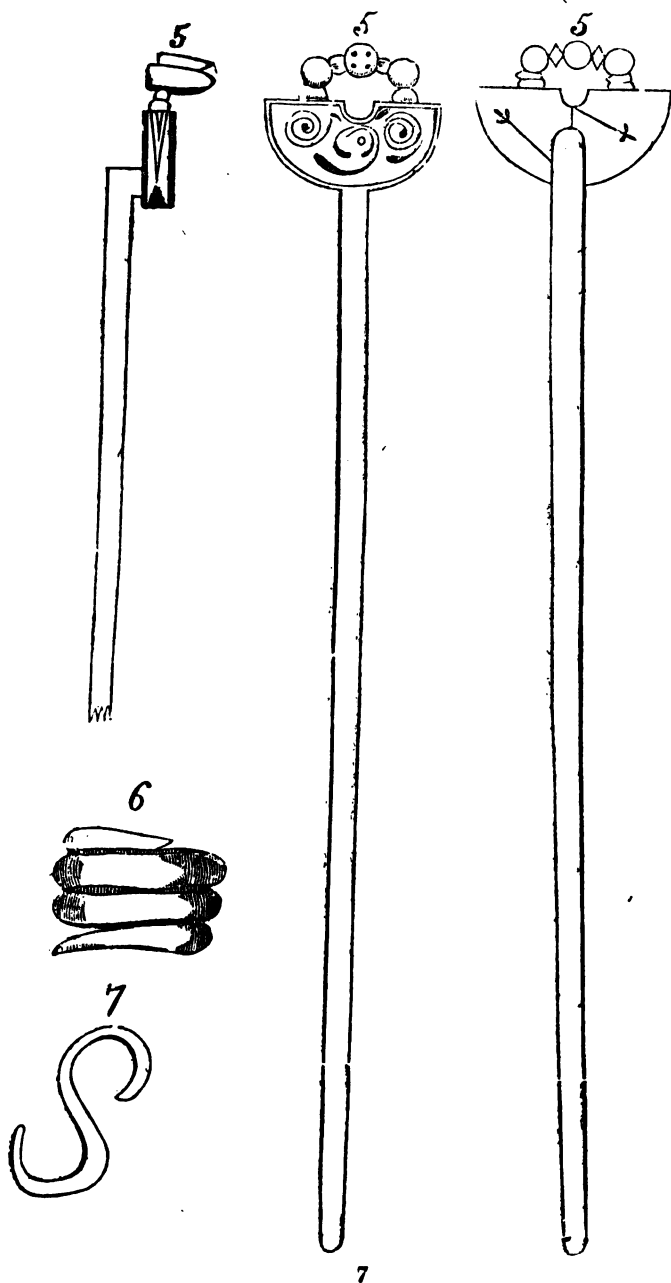
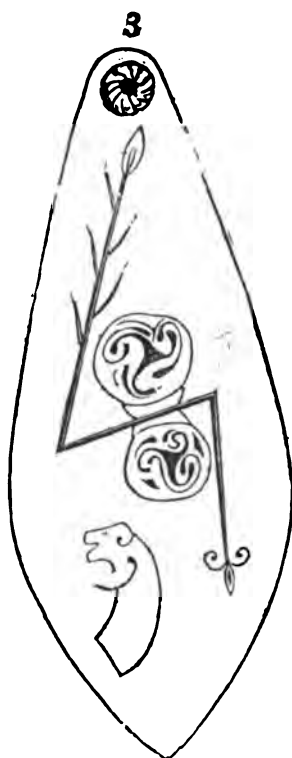
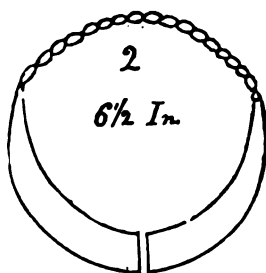
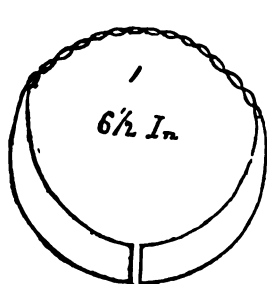


Fig. 5

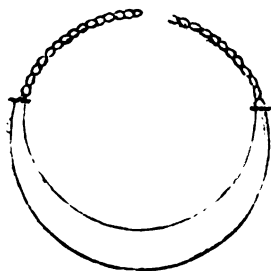


equal size fig. 2, joined together with parallel bars, and frequently divided by the zigzag fig. 1, or of unequal sizes, and joined by a single perpendicular bar, as fig. 3. A lunette divided by a something like a broken sceptre fig. 4. There are besides these other mysterious figures very generally found to prevail, but which are not so universal or uniform as to become characteristic. It does not appear, so far as the various published representations of the Irish crosses inform us, that amongst them these symbols are found. No explanation worthy of a mement's notice ever seems to have been thought of by any writer on this subject; and it is not meant that any should in the present want of information be here attempted to be given. It is a singular fact that at a place called Norries Law near Largo, in Fife, there was found (in 1819) a splendid suit of silver scale armour; of which about 180 ounces went to the melting pot of the silversmith. The helmet was barred and morrioned, and was quite entire:—the shield was triangular, about 10 inches by 14, and covered with mysterious emblems. All that now remains of these singular relics, are





the supposed armlets or collars, the scale or broaches, a bodkin, and finger ring represented below. Of these, a bodkin and a scale or clasp contain a most distinct and minute engraving of figures 1 and 2 of the Runic stones ! What are we to make of this ? Silver armour could at no time be employed as an available defence, and must have only been used on occasions of state. We have no reason to believe that within the period of authentic Scottish history, the abundance of the precious metals, or the tastes of our ancestors, were such as to lead us to look, under any circumstances, for vestures so expensive. Were the habits of those of an earlier age more luxurious ? Nothing can be more gorgeous than the attire of some of the figures on the St. Andrew's coffin. Does the occurrence of the symbol on the Largo armour, warrant us in assigning it to a period co-eval with the crosses ? Or may it have been a copy of a symbol, whose revered mysticism remained throughout later ages ? To none of these questions will the cautious antiquary venture to give a confident reply. This much we know, that on this class of monuments, and on the Largo armour, alone have the symbols 1 and 2 ever been known to be found. The excellence of the work of the bodkin and finger ring could not be surpassed in execution by any modern silversmith. At the time the present paper was drawn up, the writer had never seen the common silver collar worn by the natives of India: a representation of one of these is here also given; it corresponds, in form so exactly with the portions 1 and 2 of the armour as to leave no doubt on his mind as to the identity of their uses. The only difference betwixt them is, the one opens before, the other behind; it is not at all unlikely that this may arise from alterations afterwards made on it.



The symbol represented in figure 4, is perhaps still more frequent in its occurrence than the preceding. It bears a singular resemblance to the mysterious relics so often found in Ireland, of which the following figures are given by O'Brien, who describes it as an emblem of the sacred ships of the Buddhist worship.* "These semicircular implements, Ledwitch (quoted by O'Brien) acknowledges to have created more trouble to antiquarians, in determining their use, than all the other antiquities put together."

The cross however is of all the characteristics, far the most uniformly present; and is indeed wanting in only a very small proportion of them. O'Brien points out that this is by no means a purely Christian emblem; but has been generally and extensively employed in the East, either before the incarnation, or where Christianity was unknown. It is certainly a remarkable fact, that in no case we have ever seen or heard of, is a crucifixion detailed on any of these monuments, at the same time the cross is so uniformly and distinctly of the form of that called, the cross of Calvary, that we have no doubt of its being Christian.† It is generally surrounded by an ornamented circlet or halo; its shaft and transepts are covered with minute and elaborate carving, while some special enrichment commonly adorns the point of the intersection, or the extremities of the arms. It stands in relief from $\frac{1}{2}$ an inch to 3 inches according to the character of the stone. In these cases where the whole stone is cut cruciform-wise, as is frequently the case in Scotland, and still more so in Ireland, the general character and ornaments are the same as in the stones where reliefs are represented. The general character of the ornamental carving is so peculiarly marked or distinguished, that when any or all of the emblematical characteristics, above referred to, are wanting, it is quite adequate to indicate the class to which the stone belongs. The fret work represented on the shaft of the St. Madoe's cross is the most frequent variety of enrichment. Next to this in abundance, and before it in characteristicness, are the reticulated entanglements often occurring by themselves, and into which the convolutions of serpents, the tails of animals or other

* The figures referred to have, by a mistake been placed in a preceding page.

† Since the above was written, I have seen in the British museum the vesture of a Coptic priest on which the cross of Calvary is painted precisely as represented on the cross stones. Its wearer, as has been ascertained from contemporary Egyptian relics, must have flourished about the sixth century before our era.

flexible delineations, are invariably interwoven. It will be observed, (and the end pannels of the St. Andrew's stone coffin afford an excellent illustration of the fact,) that however absurd the effect produced may be, that they are always interlaced like oziers in basket work, or the warp and woof in a web; the upper and lower mandibles of a bill being made to bend alternate-wise at the sculptor's pleasure, so as to conform to the rule, however unnatural it may look for the figure represented, or inconvenient it might be for the animal if alive. The style of the carving, thus minute and elaborate, is remarkably indicative of an extremely early and rude state of society. So far as the intellectual part of the artistship is concerned, there seems to have been no adequate draught or plan of the sculpture previously prepared. It is manifest that one portion of the figure had often been cut out without any due consideration of the room required for the remainder, or the position or proportion to be assigned to it; and the consequence is, that while a head, for example, is represented of an exaggerated size or shape, the body or limbs are huddled together in whatever extent of space happened to be left for them uninvaied by previous carving. To this, however, the cross, which is always drawn with remarkable symmetry and precision, is an exception; as also, but in a less degree, are the leading emblems:—the picture department, which, from this, we may suppose was considered the least important, suffering chiefly from distortion. Connected with this, is the remarkable fact, that the blocks or slabs, from which these monuments were made, seem very rarely to have undergone such a preliminary process of preparation, as would, in more refined times, be reckoned essential for the most ordinary piece of hewn work, much more for ornamental sculpture. The stones resemble, as nearly as may be, well-formed blocks, carved just as taken from the quarry. Where "wants," or irregularities occur, they are rarely squared off or cut away, but the outline of the carving is made to accommodate itself to the irregularities of the stone. The St. Andrew's coffin, so often referred to, affords in another way a remarkable illustration of the same class of facts. Though very elaborately carved, and most likely an object of great veneration, no provision whatever has been made for jointing, cementing, or batting together the pieces of which it is composed: they, on the other hand, are furnished with rude, but strong elongated tennons, to be inserted doubtless in the floor or pedestal on which it stood. It must be added that a style of ornament somewhat similar to this, and pro-

bably imperfectly copied from it by later sculptors, prevails on monuments of a different class and more recent date. Of these Olaus Wormius, Kysler and Saxo (edition by Stephanus) furnish us with examples of the true Scandinavian stones; while the stone of lamentation and crosses of Iona and Oronsay, as represented by Pennant, and whose antiquity does not probably exceed 400 years, contains a similar style of carving. On three of these stones only have inscriptions in written characters been traced; none of them have ever been interpreted. The characters are all different from each other, belonging apparently to dissimilar alphabets. Of two of these Mr. Stewart says;—"The inscription of the Newton stone, Aberdeenshire, has already been submitted to several eminent antiquarians, none of whom have been able to decypher, or explain it. The late General Vallancey, the celebrated Irish antiquary, pretended to have read the two words Gylf—Gomarra, but professed to be unable to proceed further. On the Fordoun stone is found what appears to be alphabetical writing, but so entirely defaced, that not a single letter is now distinctly legible." It seems doubtful whether the Newton stone belongs to the class of monuments under discussion, and the inscription on that of Fordoun, which is otherwise extremely well marked, seems to have been engraven *after the sculpture of the stone itself*, part of which appears to have been hewn off to make way for it. It is very doubtful, indeed, whether any authentic case exists, of an alphabetical inscription on any of these monuments. That on the St. Vigean's cross has most the look of authenticity. The letters seem a combination from the old Irish and Anglo-Saxon alphabets as represented by Fosbrook (*Encyclopedia of Antiquities*) and O'Brien (*Irish Dictionary*). It may, however, have been an after-thought and no part of the original sculpture. The number of these crosses believed to exist in Scotland at present, is about 200; and when we consider, that for a period of about 600 years, they have ceased to be objects of reverence; and had a protracted war of destruction waged against them, which their solidity, compactness, and general fitness for building materials greatly encouraged; that in our own day, with all our boasted refinement and love of archæological research, dozens of them are perishing unheeded before our eyes; we probably do not greatly exceed, when we say, that perhaps not less than thrice this number existed, when the full reverence which occasioned their erection was accorded them.

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J. Thompson del.

This Stone together with those at Croft Town and Camus Croft are said

ABERLENO Forfarshire.

AULDDEAR, FORFARSHIRE:—a very well preserved cross. It is mi-

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The following imperfect catalogue of those we have seen or inquired after, may help to guide the student, as to authorities and subjects of examination, and may by calling to it the attention of the public, help to stay the progress of dilapidation to which this class of our earliest and most mysterious antiquities are at present being exposed. The works chiefly referred to, are the *Itinerarium Septentrionale*, by Alexander Gordon, A. M., Edition, 1726. *Remarkable Ruins and Romantic Prospects of N. Britain, &c.*, by the Rev. Charles Cordiner, Banff, 2 vols., 1788. *Pennant's Tour*, 1790. *Observations on several monumental stones in North Britain*, by J. Logan; F. S. A., Edin., with 14 engravings, London *Archæologia*, 1827. The illustrations of this paper seem carefully and correctly drawn and engraven. An account of some sculptured pillars, &c., by John Stewart, of Inchereek hill, Gr. Prof. Aberdeen: *Trans. Scoth Antiq. Soc.* Vol. 2, &c. &c.; and the unpublished collection in the possession of the present writer, who has been for years engaged in endeavouring to elicit information, by comparing with each other carefully drawn representations of these monuments—information concerning which is still a desideratum in archæology.

The engravings of Gordon are, as specimens of art, extremely rude and defective, but tolerably correct so far as they go. Cordiner's are defaced with the abomination of affected ornaments to an extent which makes them utterly worthless as references. Pennant's are occasionally good: they seem to have been taken by his servant, without the superintendence of the traveller himself, and are occasionally quite unworthy of trust. The drawings of Logan and others in the *Archæological and Scottish Antiquarian Transactions*, seem faultless; as also are those in the new *Statistical Account*. To save space in references, the name of the author alone is given in the subjoined list.

ABERLEMNO, FORFARSHIRE:—described by Boethius and Buchanan, figured by Gordon, Cordiner and Pennant, and in unpublished collection. The stone is in good preservation. It is situated at the west end of the parish church, apparently deeply immersed in the ground:—Described by Stewart.

ABERNETHIE, PERTSHIRE:—Two rude blocks of trap, very characteristically figured; dug from the foundation of an old house in 1830.—Unpublished collection.

AULDEAR, FORFARSHIRE:—a very well preserved cross. It is mi-

nutely described by Pennant, who did not profess to have seen it. There is no published drawing of it. From 1778 it seems to have been utterly lost sight of. It was in 1832 dug from under a heap of rubbish, as something then for the first time discovered. It is now carefully kept at Auld Bar castle.—Unpublished collection.

BALKELLO, FORFARSHIRE :—6 miles north of Dundee; mentioned by Gordon;—stone broken, and much injured.—Unpublished collection.

BALKOURIE, NEAR MEIGLE FORFARSHIRE :—a large but rude block, with sculpture, (No. 2) and other half effaced characters, without a cross.—Unpublished collection.

BEAULIU IN ROSSSHIRE :—a cross described and figured by Cordiner.

BENNACHIE GAIRIOCH, ABERDEENSHIRE, figured and described by Gordon and Cordiner, more accurately by Logan, *Archæologia*, called Maiden-stone, defaced on one side.

CAMUS CROSS, MONIKIE, FORFARSHIRE :—a large cruciform stone in good preservation, were it not so thickly covered over with lichens: described by Boethius, Hollingshead, and Buchanan, as the funeral monument of a Danish chief, slain 845; figured by Gordon, who gives a description from the Latin MS. of Commissary Maule, 1600.—Unpublished collection.

CRAIL SLAB :—in the church floor, sculptured only on one side; no published description—discovered 1837.—Unpublished collection.

CRIEFF CROSS OF PERTHSHIRE :—figured, in *Trans. Scot. Ant.* 1821, very much mutilated; stands in the centre of the village as a market cross.—Unpublished collection.

COSENS—near Glamis, Forfarshire :—cross, described and figured by Gordon—described and called St. Orlan's Stone in the new Statistical Account. Unpublished collection.

CROSS—TOWN, ABERLEMNO, FORFARSHIRE :—One very superb cross and two lesser ones in perfect preservation, close by the side of the Forfar and Brechin road; the same group as that at Aberlemno. These stones have always been objects of attraction to antiquaries. Drawings (incorrect as usual) are given by Gordon, Cordiner and Pennant. — Unpublished collection.

CALLAGE, PERTHSHIRE :—a fine stone not any where described.

CREICH :—"There is an obelisk near the church of Creich in Sutherland, 14 feet high by 4 broad, richly sculptured, and said to be the

burial place of a Danish Prince.”—Chalmer’s *Caledonia*, vol. I p. 466. This is nowhere else described, that I am aware of.

DOGTON, Kinglassie, Fife :—A broken cross described and very correctly drawn by Pennant ; called Doctan, described in new Statistical Account ;—Unpublished collection.

DUNNICHAN, Forfarshire :—A rude, but well marked stone, described by Gordon, now built into a park wall.

DUNKELD, Perthshire.—Two large crosses mutilated, used for many years as gate posts, stood neglected at the door of the Cathedral ; one of them turned upside down.—No published account of: unpublished collection.

DUPLIN, Perthshire :—A fine cruciform stone quite entire, described by Pennant and Gordon.—No published drawing.—Unpublished collection.

DYKE, near Forres in Moray :—Cordiner gives a drawing of.

DYCE,—church, of figured by Logan ; in good preservation. *Archæologia*, 1827.

EDDERTON, in Ross-shire :—“ There is another obelisk which is 10 feet high, with carved figures, which stands in the parish of Edderton in Ross-shire.” It is said by popular voice to be the monument of a Prince of Denmark, who, having fallen in battle, was interred there. Chalmer’s *Caledonia*, Vol. I. p. 466.

ESSIE, Forfarshire.—A very richly carved cross near the old church yard. It is figured and described by Cordiner, 1780. Like the Auldbar stone, it seems to have been broken, carried away and lost sight of, till it was exhumed and re-erected by the parish clergyman, about 20 years since.—Unpublished collection.

ELGIN, Moray.—Only one side of the stone visible, the other built into the church wall ; well represented by Logan. *Archæologia*, vol. 22.

FAR.—“ At the church of Far, Sutherlandshire, there is a sculptured stone, said to be the monument of a Danish Chief.” — *Caledonia*, Vol. I. p. 466.

FORDOUN, Mearns-shire.—A finely preserved stone, dug out beneath the old parish church, accurately represented by Professor Stewart of Aberdeen, and described by him as “ probably a monument erected to the memory of Kenneth III., who is said by Fordoun, Wintroun, and Boethius, to have been murdered near Fettercairne, A. D. 994, by Fenella or Fenelli, in revenge for the loss of her son.”

FORRES—*Sueno’s Pillar, near Forres*, is the most remarkable of

these monuments, both for its magnitude and the richness of its sculpture. It is situated between Forres and Elgin, and is 25 feet in height, and 4 in breadth at the base. It has been badly figured by Gordon, Cordiner and others. It contains on one side a cross, on the other the usual pictorial sculpture. I have not examined this obelisk, and the published engravings on it are so discordant and manifestly unfaithful, that no reliance can be placed on them. It *seems* to belong to the class under review, but the usual emblems appear awanting, though the general sculpture is characteristic. It has always been assigned to the Danes, and known indeed as a monument of the chief Sueno, who, it is said, was here defeated and slain. Boethius is the earliest writer who treats of it: in which he is followed by Buchanan, as well as by Gordon and others — "This stone is supposed, probably erroneously, to have been erected in commemoration of the Scottish victory" (say the writers of the Pictorial History of England); "but what can we make of the Elephant by which it is surmounted?" The cut given by them as well as by O'Brien (Round Towerses), is taken from Cordiner's engravings.

FOWLIS, WESTER, in *Perthshire*.—There is a very fine cross, with, on the opposite side, a religious procession. Mr. Gough (Camden, Lond. 1789,) states, that this has not been noticed by any preceding writer. It is of one stone 11 feet high. It is mentioned in the new Statistical Account as "being commemorative of a wolf hunt, where the wolf, being pursued through a village, snatched off the head of a child;" As improbable a theory as can well be conceived.—Unpublished collection.

GLAMIS—*Opposite the manse door*, figured by Gordon, Cordiner and Pennant; described by Boethius, and Buchanan, (nearly all subsequent writers following them,—as a tombstone commemorative of the murder of Malcolm II. Anno 1033. It is 10 feet high, and 5 broad at the base. There is a similar stone within Glamis Parish, and another at the village of Cossens near by, (*vide* Cossens) all ascribed to the same source.—Unpublished collection.

INVERKEITHING—figured and described by Gordon, noticed in Statistical Account, considered Danish by both.

INVERMAY PERTHSHIRE within the inclosures; noticed by Gordon.

KINKARDINE, near *Auchterarder*. PERTHSHIRE. Stone in good preservation; no published description.

KINNELLAR churchyard, *Ross-shire*. Logan. *Archæologia*, XX11.

LARGO FIFE.—A small but well marked cross, just behind Largo house. The one side is concealed, being built into the court yard wall.—New Statistical Account.—Unpublished collection.

LINDORES, Fifeshire.—On an eminence called the *Kaim* hill of Lindores, near Newburgh, there is a rude block marked with the symbols 1 and 2. Its genuineness is doubtful.—Unpublished collection.

MAINS OF STRATHMARTIN, Forfarshire.—In the Schoolmaster's garden wall, supposed to be of this same class, carving uninteresting, without characteristic symbol.—Unpublished collection

INCHTUIR, Forfarshire.—What seems a fine cross but of small size. The ornaments of one side concealed. Forms the step of a stair leading to the church-yard.—No published account.

MEIGLE.—A splendid group, consisting of two superbly carved stones with crosses, and a great many sculptured blocks and slabs, which may probably have formed the sides, end, and cover, of a sarcophagus, like that of St. Andrew's. Boethius, Buchanan, and W. H. Maule in his MS. history of the Picts, described these as monumental stones to a Queen Venora or Fenella, and are followed by most other authors. She is said to have been torn to pieces by wild beasts, for her murders and adulteries, about the 9th century. She is said by others to have been the wife of the celebrated King Arthur. "Perhaps the carvings on these stones," sagaciously conjectures Gordon, "as it sometimes, happens, may have given rise to this conjecture; they are all carefully kept and in good preservation."—Unpublished collection.

MUGDRUM, near Newburgh, FIFE.—A large but rude block described by Camden, Gordon, and Pennant, correctly figured in the new Statistical Account of Fife; erroneously there and in Swan's *Views of Fife*, connected with MacDuff's cross.—Unpublished collection.

MONIFIETH, Forfarshire.—A sculptured but well preserved fragment, built into the church wall.—Unpublished collection.

MORTLACH, Aberdeenshire.—A large stone figured by Logan. *Archæologia*, vol. XXII.

NEWTON, Ross-shire.—A very rude but well marked stone, referred to by Logan, *Archæologia*, XXII.

NIGG, Ross-shire. "There is a similar stone to that of Standwick—in the church yard of Nigg, which tradition also assigns to the Danes." Chalmers's *Caledonia*, vol. I., p. 466.

PITMUIRS CROSS, *Forfarshire*.—Broken over by the transept, very much defaced; seems to belong to the Aberlemno group.—Unpublished collection.

PITNAPPIE, *Aberdeen-shire*. * * * *

RUTHVEN, *Banff*.—Rudely sculptured and much defaced.—Logan; Archæologia.

RHYNIE MUIR, *of Aberdeenshire*. Two large stones, one 2 feet by 10, the other 1 foot by 9; both figured by Logan. Archæologia: with two others—dimensions not known.

ST. ANDREW'S, *Fife*.—In digging a very deep grave in the Cathedral yard of St. Andrew's, a little north of the celebrated square tower, in 1833, a large slab, sculptured with hunting scenes, and the figures of men on horseback, of lions, asses, and other animals, was met with, together with a variety of other fragments; they were for sometime tumbled about, broken and partly carried away; the present writer, from the character of their carving, at once pronounced them to be the fragments of a magnificent stone coffin belonging to the same order of monuments as that under discussion. The Rev. C. Lyon, a zealous local antiquary, immediately caused search to be made for other fragments pronounced to be wanting; a considerable number of which were found in 1836, and had correct drawings very carefully taken of the pieces most entire. When put together, it proved to be a most elaborately carved Sarcophagus; the one end and a portion of the side and corner are all that are wanting (*Vide plate fig.*). To the scandal of the oldest university in Scotland, this most interesting relic is still tumbled about in pieces without the smallest consideration or regard. A portion of it is figured, from the drawings of Mr. Lyon, in the *Pictorial History of England*; in which however it is incorrectly described. Dr. Dibbin having carried a piece of this stone away with him, has it correctly represented in his 2d. vol.; he considers it as early Saxon.—Unpublished collection.

ST. MADDOES, *Perthshire*.—A monument very rudely sculptured on one side, but extremely rich and variegated on that on which is the cross. This is in a state of fine preservation; more for the good fortune of the cross than the credit of the local antiquarian taste, it lies buried in the soft earth of the church yard; whence its repose was first disturbed in 1835. It has not, so far as I am aware, been noticed by any antiquary.—Unpublished Collection.

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STANDWICK, *Ross-shire*—A fine cross, figured by Cordiner, copied and commented on by O'Brien (*Round Towers*). Chalmers says of this, "At Standwick, in the parish of Nigg, on the east shore of Ross, there stands an obelisk with the sculptures of hearts and a cross; and here tradition accounts that the three sons of a Danish King were interred." *Caledonia*; vol. I. p. 466.

WICK. "At Wick in Caithness there is a monumental stone with hieroglyphic characters, said to be the monument of a Danish Prince." Chalmer at Sup.

From the extent of country over which these relics prevail, comprising the whole eastern and midland parts of Scotland, from the Forth to the northermost part of Caithness; and from the perfect uniformity, under whatever designation they may pass, or whatever history tradition may assign them, of their carvings, style of sculpture and hieroglyphic symbols, we seem perfectly entitled to draw this one inference at least, that the whole of these monuments are of one class, and had the same general set of objects in view: that they were erected under similar circumstances, and when the same general customs and mode of sculpture prevailed amongst all their erectors. As we have no recorded statements of any thing peculiar in this way ever having prevailed in Scotland, we seem entitled either to suppose the period of their erection anterior to the existence of written history, or even of distinct tradition; or, to assume that the custom of raising these sculptured crosses was but of brief duration; otherwise we could hardly fail to have some notices of a thing so remarkable either by the contemporary writers of other countries, or as handed down by tradition to our own. Vague as these conjectures are, they are all which we are entitled to form, from the facts before us, as to the date or mode of their erection. We cannot concur with the idea of O'Brien, that they are older than the Christian era.* The crosses which he makes out to have existed as religious symbols before the Christian era, or to be found at present in heathen countries as religious symbols, bear no resemblance to those on the sculptured stones, which are uniformly of the shape designated "The Cross of Calvary" in heraldry. It is worthy of remark at the same time, that in no single case of a well marked monument of the class, do we find the representation of a crucifixion. The case of

* This observation, though correct as concerns the drawings and description of O'Brien, requires to be received with some modifications.

the goodly Burn-stone, near Perth, would be an exception to this could it be proved to belong to this class of relics: but though in general form and aspect it resembles them, its sculptures are so defective, that, differing from them as it does in this most characteristic particular, I have left it out of the list. Nor is it possible they can have fallen much within this era. Fordoun, who wrote at the close of the 14th century, does not notice their existence, and to us we must therefore assume them to have been considered by him of no importance. The same thing holds of Wintoun, who wrote nearly contemporaneously (1420), though there is every reason to believe quite independently of Fordoun. By the time of Hector Boece, A. D. 1500, the more remarkable groups of them seem to have attracted attention; but authentic tradition was as silent regarding them as at present, and the ideas of their describers as cloudy as are those of the antiquarians of our own time. For the history of Scotland by contemporary writers, before the time of Fordoun, we must go beyond the boundaries of our native country and rely on English or French writers, who, though less copious than might be desired, seem to have devoted no little consideration to our affairs. The line of these from the time of Bede in the 6th century, is tolerably continuous. The utter silence of the whole of them in reference to a set of monuments whose existence must have been matter of national importance, and which must themselves, for a long period, have been subjects of deep national reverence, implies, that since the year 500, they have neither been erected nor greatly revered. We have from an architectural fact, an indirect evidence of their very great antiquity. The church of St. Vigean, near Arbroath, is known to have been built considerably before the Abbey of Arbroath, which was founded by David I., A. D. 1200. In the wall near the foundation of the north transept, we find one of these monuments used as a common building stone and luckily not defaced. It is apparent from this, that before 1200, these relics, the elaborateness of whose carving, irrespective of the greatness of their number, proves the deep and long enduring reverence which must have been attached to them, had lost all consideration in the eyes of even the priesthood, or had fallen into utter disesteem. Assuming, then, that the emblem of the cross brings them within the limits of the Christianization of Scotland, and that the silence of English, and ignorance of Scottish, historians, as to the true theory of their erection, carries their date beyond the 6th century, we shall obtain a set of conditions very concordant with

each other, to give us a plausible conjecture at least on this mysterious subject. We are disposed to assume, that while these monuments might commemorate the death, or mark the spot of interment, of eminent individuals, that they were also objects of religious worship—in fact monolith shrines. They prevail all over the ancient Pict land, and hardly beyond it. We have every reason to believe, that, about this period, a colony of Irish became located in Scotland, who would, as a matter of course, bring their habits and customs along with them. “The existence of the celebrated Round Towers in these two districts alone on the face of the earth, is a striking proof of their early connection; and though the perfect identity of the sculptures on the crosses in Scotland and in Ireland has not as yet been so thoroughly established as have the characteristics of the Round Towers, their similitude is so extreme and their existence so remarkably adstricted to these two countries, of the history of this period of peculiar darkness.

The sacrificial processions on various of these monuments—on that of Fowlis Wester in particular,—as well as the representation of other religious ceremonies, seem to point to Pagan observances, then last being obliterated by the prevailing creed. On the coffin at St. Andrew's, and on the crosses at Duplin and Auldbar in Scotland, and on that of Kells in Ireland, we have the representation of a man tearing open the jaws of a lion or other wild animal, in attitude so precisely similar, that they might pass for copies from the same original, and, in all likelihood, referred to the same event. The idea of Mr. Logan, that the complicated carved work and reticulated interlacings represented on them all, is part of the bardic custom of tying the mystic twig,” seems more than plausible. *Archæologia*, XXII.

ART. VII. — *Notice by the Secretary of the Society on ten Hindu gold coins, found at the village of Hewli, in the Southern Konkan, and presented by Government: also on a collection of gold Zodiac coins of the Emperor Jehangir.*

The ten gold coins transmitted, by Government, for the acceptance of the Society, weigh each 63 grains: and have generally on one side the figure of a liou, with an inscription below in Telagu letters, *Balya Shri*,

(ॐ ॐ ॐ) which may be translated prosperity to the *Bali*; and which are oblations of food offered, at the four cardinal points, to *Indra* god of the firmament, *Yama* judge of the dead, *Varuna* the ocean, and *Soma* the moon.* Two of the coins are hammered and quite plain on one side; having on the other stamped symbols for the four preceding deities, indicated by letters, among which I recognize the Telugu letter K (క) standing for *Yama*, and the cave *ch.* (ఛ) for *Soma*: The centre symbol must therefore be intended for *Vaivaswat* or the sun. On the reverse of six of the coins we find written within a circle the word *Rudra*, a name for *Siva*; and on another of them the *Trisul*, or emblem of *Siva*, with an inscription below in Deva Nagari, or *Shrimanya Devaya* (श्रीमान् देवाय) to the prosperous god. This last is the newest of the series and indicates the establishment of the Saivite worship.

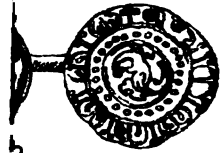
In the McKenzie collection of Hindu gold coins, two of them are enumerated as the *Sinha Mudra Fanam*, or the *Fanam* with the lion impression, without any further information being given regarding them. These and the ones now under consideration may, with much probability, be assigned to the successors of the *Andhra* Kings of Telingana; or the *Narapati* Sovereigns of *Warangal*, who appear to have been originally feudatories of the *Chalukya* Kings of *Kalyani*. This family is known by the name of the *Kakataya* Princes of Warangal, who at the commencement of their career, in the end of the eleventh century of our era, were *Jains*. Their original residence was *Anumakonda*, from whence, sometime after Sal. 1010, A. D. 1088, these Princes removed to Warangal, which became their capital, and represented the chief Hindu state of Southern India, till destroyed by the Mahomedans, during the reign of Ghias-ad-din Toghlaq of Delhi, Hejirah. 721. AD. 132. The then reigning Prince of Warangal is called in Colonel Briggs' translation of Ferishta *Ludder Dew*: being an evident mistake for his real name *Rudra Deva*: whose possessions appear to have been bounded on the North West by those of *Rama Raja* of *Devagiri*, the modern Daolatabad.

The coins now submitted for examination, having on the reverse the name of *Rudra*, may have been struck during the reign of the Prince just mentioned; but there are good grounds for assigning them a higher anti-

* See perpetual obligations of a householder in Wilson's translation of the Vishnu Purana, Quarto p. 302.



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quity, or the beginning of A. D. 1100: as at this time the second of the *Kakataya* Princes of Warangal, named *Rudra Deva*, adopted the *Saiva* in place of the *Jain* faith, and built many temples to *Siva*, or Mahadeva, in order to expiate the crime of having killed his father. Only one decisively Saivite coin appears in this collection, and is the most recent of the series: all the others indicating the prevalence of the *Jain* practice of astrology, and the worship of the *Bali* or *Baliah*, which are sidereal spirits.

Zodiac coins of Jehangir.

The Zodiac coins of the Emperor Jehangir, consisting of Silver Rupees and Gold Mohurs, are now procurable with much difficulty in India; while there are, I believe, existing collections of them which have been carried to Europe. Catrou, in his history of the Moghal dynasty (page 147), states that the celebrated Empress *Nur-Jehan*, better known, as the favourite wife of the Emperor, by the title *Nur-Mahal*, or the light of the Palace, caused these coins to be struck; when, to obtain full possession of her husband's heart, she procured the banishment of all rivals in his affections, or removed them by less innocent means. John Bowman, Esquire, is in possession of a fine collection of these Gold Mohurs; all of which, excepting those bearing the zodiac signs of *Cancer* and *Capricornus*, were struck at Agra. The two last were issued from the Mint at Ahmedabad. On the obverse of each are the names of Akbar and Jehangir, inscribed in Persian letters, and dated in the 13th year of the *Jalus*, or personal era of the Emperor Jehangir; which on some of the coins is accompanied by figures 48, intended to represent as would appear the 48th year of the personal era of the Emperor Akbar, or Hejira 1011; when Akbar proclaimed himself, on his arrival at Agra, Emperor of the Dekhan. The 13th year of Jehangir's personal reign corresponds however with Hejira 1027; when the Emperor, after an absence of five years in Gujarat, returned to his Capital of Agra, and soon after lost his father-in-law, the father of the Empress *Nur-Mahal*; who proposed to transmit his fame to posterity by perpetuating his memory in a monument of solid silver, and with the same view may have caused these Zodiac coins to be struck.

(Signed) JAMES BIRD,
Sec. B. B. R. As. Society.

ART. VIII.—*On the origin of the Hamaïyaric and Ethiopic alphabets*, by JAMES BIRD, Esquire.

In making public translations of the *Hamaïyaric inscriptions*, from *Aden* and *Saba*, embraced in Art. IV of the present number of the Society's Journal, it was my intention to reserve a consideration of the question, "*whether this alphabet be of Greek or Semitic origin*," till a more convenient opportunity might permit me to analyze the character of individual letters. My public engagements will not, however, at present admit the execution of this plan, and I am therefore obliged to submit an imperfect outline of my opinion on the subject, in deference to the advice of a friend, who suggested the propriety of publishing, along with *translations* of the inscriptions, an *alphabet* of the character. At no distant period I will resume the subject of the *Hamaïyaric* and *Ethiopic* alphabets, and endeavour to shew that the former had its origin from the ancient *Phœnician*, made apparent by the accurate researches of the learned Gesenius; and that the latter differs not materially from the former, except in having adopted the system of seven Greek vowels, expressed by particular marks and modifications of the letters in the first column, which Dr. Wall remarks, has been termed *Ghiz* ሄዝ, or the free, in order to mark its pre-eminence; because the letters, in this column, are not restricted to particular vowel terminations, but constituted the entire system, when the Bible was translated from *Greek into Ethiopic*, and the Abyssinians, converted to Christianity, in the time of Frumentius, received the Greek Scriptures between A. D. 325 and 335.

The *Syrian*, like the *Hebrew* and *Phœnician*, consists of an alphabet of 22 letters, written from right to left; which are either separate or joined with the preceding or succeeding characters; but the *Hamaïyaric* of inscriptions, found on the coast of Southern Arabia, has on the contrary an alphabet of 25, if not 26 letters, written from left to right; for it is probable that further research will discover that the *Hamaïyaric* embraces the whole 26 letters, composing the alphabet of the *Ghiz*, or modern *Ethiopic*. The scheme and arrangement of the latter, called, from two syllables of the series belonging to its first letter, ሀ ሀላ ል *Ho He Ya T*, differs from that of the *Phœnician* and *Hebrew*, which commences with *Aleph* and *Bet*; but an inspection of the accompanying alphabetical table, plate XIII, will render evident to the most unlearned observer,

Hampered
with the

| Hebrew | Corresponding Letters of the Arabic. |
|--------|--------------------------------------|
| א | ا |
| ב | ב |
| ג | ג |
| ד | ד |
| ה | ה |
| ו | ו |
| ז | ז |
| ח | ח |
| ט | ט |
| י | י |
| כ | כ |
| ל | ל |
| מ | מ |
| נ | נ |
| ס | ס |
| ע | ع |
| פ | פ |
| צ | צ |
| ק | ק |
| ר | ر |
| ש | ش |
| ת | ת |
| י | ي |
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| ל | ل |
| מ | م |
| נ | ن |
| ס | س |
| ע | ع |
| פ | ف |
| צ | ظ |
| ק | ق |
| ר | ر |
| ש | س |
| ת | ت |
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| ק | ق |
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| מ | م |
| נ | ن |
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| ק | ق |
| ר | ر |
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that the names of 22 letters in modern *Ethiopic*, corresponding in character with the *Hamaïyaric* of inscriptions from Arabia, and the *Ethiopic* of inscriptions from *Axum* and *Tigré*, differ in no respect from the names and power of the 22 *Phœnician* and *Samaritan Hebrew* letters, from which they were derived. In some of the inscriptions, copied by Messrs. Hulton and Smith, from the neighbourhood of the Bedwin town of *Dees*, distant only four hours from *Ras Sherma*, on the Southern coast of Arabia, the following letters, *Bet*, *Waw*, and *Mai*, retain their original *Phœnician* character, viz. א א װ, but have not been inserted in the present table.

The names of the *Hamaïyaric* letters, corresponding as they do with those of the *Hebrew* and *Phœnician*, obviously indicate its *Semitic* origin ; and no doubt can exist that these constitute the character, anciently known among the Arabs as *Al Musnad*, or the propped ; being in many cases not materially different from the *Hebrew* and *Syriac* characters, having only the addition of foot props. This and other forms of the Arabic alphabet, including the *Kufic*, was borrowed from the *Phœnician* and *Hebrew* letters, that were in current use among the Jews from the second century before Christ to the seventh of the Christian era. Michaelis in his *Grammatica Syriaca*, pp. 22, 23, correctly asserts, “ Quo tempore Arabes a Syris literas sumserunt mutuas, quod factum est Muhammedis ætate, seculo Septimo ineunte aut paulo antea, tres modo vocales habuisse Syros necesse est, tot enim ab illis acceperunt Arabes, *Fatha*, *Kesre*, *Damma*, quas et Cuphica jam scriptio habuit, totidemque vocales, literis ipsis innexas Sabiorum seu Galeæorum alphabetum habet.” The *Hamaïyaric*, like the character of the *Palmyrene inscriptions*, seems altogether deficient in vowel signs, which as Dr. Wall satisfactorily shews were not in use when the Septuagint version of the Bible was made : all the letters of the Hebrew text being, at this time, employed as signs of syllables, beginning with consonants and ending with vowels.* The letters of the alphabet were all consonental, inclusive of و ا ع of the Arabic, or the *Ain*, *Alif*, *Waw*, and *Yod* of the Hebrew and Syriac, which were termed quiescent in the pointed texts of the Bible ; but were afterwards employed as *vowel signs*, as seen, from the *Hamaïyaric inscriptions*, by a

* Examination of the ancient orthography of the Jews, and of the original state of the text of the Hebrew Bible, by Charles William Wall, D. D. Professor of Hebrew in the University of Dublin, vol. II. p. 271.

comparison of these with the corresponding words in Arabic. The Syrians had at first only three vowels, corresponding to the same in Arabic; but, as the *literati* advanced in translating the Bible and other works into Greek, they endeavoured to express all the sounds of the proper Greek names, substituting at first five Greek vowels, and subsequently carrying them as far as seven;* which number were also adopted by the *Ethiopians* on the transfer of the *Hamaiyatic character* to the shores of Axum. The quiescent letters of both the *Arabic* and *Ethiopic alphabets* possess no sound in themselves, till animated by points; and the *Waw*, on the coins of the Maccabees, Λ or the Hebrew *waw* so modified is found to retain this character in some other inscriptions, such as the Bactrian Pali, from *Shah Baz Ghari*; which, as can be clearly shewn, had a kindred origin with the Pehlvi writing on the Persian monuments of *Nakhshi Rostam*, *Nakhshi Rajib*, and *Takhti Bustan*, and are closely allied to the letters of the Palmyrene inscriptions; of which the first dates not earlier than the year 135 of our era. The opinion of Dr. Wall, therefore, "that it was from reading Greek that the Jews learned the use of vowel signs, and in consequence applied three of their letters occasionally to this use, precisely in the same manner as the cognate letters were afterwards employed in unpointed Syriac, and are, at this moment, employed in unpointed Arabic,"† is so consonant to truth and the practice followed in the Hamaiyatic inscriptions from Southern Arabia, as to bring home to us conviction, that, while the Hamaiyatic is a derivative from Phœnician, it at the same time employed four additional characters to express the Greek consonental sounds of Zeta, ζ Eta, η Pi, π and Psi, ψ as apparent in the comparison made of the several alphabets. Along with this adoption of Greek vowels and additional consonental characters, the Hamaiyatic and Ethiopic alphabets use, as numbers, certain figures derived from the numerical system of Greek letters.

If the opinions regarding the origin of the *Hamaiyatic* and *Ethiopic alphabets* be correct, and of which I entertain not a doubt, it will follow as a matter of course that the *Hamaiyatic inscriptions from Aden*, and those translated in Art. IV. should be read from left to right, like *mo-*

* *Grammatica Syriaca Joannis Davidis Michaelis*, p. 24, et *Bibliotheca Orientalis Assemani* Tom. I p. 522.

† Wall's examination of Jewish Orthography, vol. II p. 221.

deru Ethiopic; and made use of diacritical points, such as appear to have been introduced into Syriac by the Nestorian Christians. The Ethiopic inscriptions, on the reverse of the Greek tablet at Axum, published in Mr. Salt's voyage to Abyssinia;* and written in precisely the same character as the Hamaïyaric of Southern Arabia, read from left to right, and record that John, Bishop of Ethiopia, taught from the neighbourhood of the River (Nile) the Sabæans of Hazramaa. He is the same John who was sent, as appears, into Ethiopia, during the reign of the Emperor Justin A. D. 521, in order to settle the Christian faith of that country, and was accompanied by several missionary assistants. This and other facts give probability to the opinion that the Hamaïyaric of inscriptions, in Southern Arabia, are of comparatively modern origin, and cannot, at the utmost, have an antiquity beyond 200 years before the birth of Christ; when, on the coins of the Maccabees, we find many Hebrew letters cognate with those of the Hamaïyaric inscriptions. The language of those now translated is a mixture of *Ghiz and modern Arabic*; and as the adjectives, found in the inscriptions, are formed on the principles of Ethiopic Grammar, while the preposition *Ba*, used both in Persian and Ethiopic is found in them, it must necessarily follow that these inscriptions can be but little anterior to the commencement of the Christian era, and are, in all probability, several centuries after it, when the Hamaïyaric sprung from the Phœnician, altered to express Greek vowels and proper names.

The comparatively modern origin of the Hamaïyaric alphabet may be also deduced from what we know regarding the origin of the *Coptic*; which, cannot be traced back further than the 1st Century of our era, though the language itself existed at an earlier period. When the early Christians translated the Bible into Coptic, the versions of it from the Septuagint were written from left to right; and where Coptic sounds could not be expressed by Greek letters of similar force, additional Coptic letters were used. In this manner seven additional Coptic characters, were added to the 24 letters of the Greek alphabet; exhibiting, in this respect, a remarkable similarity with the practice pursued in the Hamaïyaric characters, and in the translation of the Scriptures from Greek into Ethiopic. We not only observe this analogy between the systems of the two alphabets, but can distinguish an almost identity of character between the seven ad-

* Salt's voyage to Abyssinia.

ditional letters of the Coptic alphabet and those similar found in Ethiopic. The following seven letters not in the Greek alphabet, $\Psi \Upsilon \Xi \Sigma \Theta \Phi$ or *sh, f, h, k, z, s, ti*, will, on a comparison with the alphabetical table of the Hamaïyaric here submitted, be found to be almost identical in character.

The Semitic origin of the Hamaïyaric letters, and their derivation from the Phœnician may be yet further accounted for by what Masudi in his Golden meadows, and other Arabic historians relate, that the descendants of Khatan or Yoktan, inhabiting Southern Arabia, used the *Suryani*, or Syriac language, previous to the amalgamation of the several dialects now constituting the Arabic language, which probably derived its title, posterior to the Exodus, from the Hebrew אַרַב *Arab*, signifying a mixed people. Philostorgius further relates that Syrians were settled in the neighbourhood of the Ethiopic ocean, "*Ad maris rubri inquit exteriorum sinum sinistro latere degunt Azumitæ, ex vocabulo Metropolis ita appellati : urbium enim caput Auxumis dicitur. Ante hos autem Auxumitas, Orientem versus, ad extimum pertingentes Oceanum, accolent Syri, ab eorum quoque regionum incolis ita dicti. Etenim Alexander Macedo eos ex Syria abductos, illic collocavit : qui quidem patria Syrorum lingua etiamnum utuntur !*" And Strabo notices that towards Arabia Felix in the Indian Ocean, there were Colonies of Sidonians, Syrians, and people of the island of Arwad.*

I must therefore dissent from an opinion expressed in a late publication, on the Historical Geography of Arabia, that the Hamaïyaric characters only consist of 20 letters, or can be the first alphabet of mankind.† Mr. Forster terminates his observations with this remarkable conclusion, "there is every moral presumption to favour the belief, that, in the *Hiss Ghorab* inscriptions, we recover the alphabet of the *world before the flood*:" but neither Palæography nor Philology will bear him out in so unphilosophical a conclusion. I may briefly recapitulate the chief points which argue against the correctness of his interpretation of the Aden, Hiss Ghorab, and Nakab-al-Hajar inscriptions. 1st. The Hamaïyaric inscriptions on the coast of Southern Arabia are precisely in the same character as the Ethiopic inscriptions found on the opposite coast of Axum, and on the reverse

* Bibliotheca Orientalis Assemani, Tom. IV p. 603.

† The Historical Geography of Arabia by the Revd. Chas. Forster, B. D. in 2 vols. London, vol. II. p. 408.

of the Greek Tablet there ; which dates not earlier than the 4th Century of our era. 2nd. The existence in Hamaiyaric of three quiescent letters, used by the Syriac as vowels, and the change of *Ain*, into ,*a i*, or *u* ; a practice which had not existence prior to the commencement of the Christian era. 3rd. The striking similarity between the *ancient Hamaiyaric*, and alphabetic characters of the *Modern Ethiopic*, which had not an antiquity greater than the time of Frumentius, while the probability is that it is considerably later, or about A. D. 508, when Philoxenus translated the Scriptures into Syriac, and adopted the system of the Greek vowels. 4th. The introduction into Hamaiyaric of three, if not four, additional letters to express Greek sounds, which differed from those of the Hebrew or Phœnician. 5th. The figure of a *cross* accompanies most of the inscriptions from Southern Arabia, and is very apparent below the Hisn Ghorab inscription, indicating its comparatively recent and Christian character. Such seem to me strong reasons for differing from Mr. Forster, and from his system of reading the inscriptions from right to left, instead of from left to right as in modern Ethiopic. At some future time I will return to this subject.

ART. IX.—*Historical Researches on the Origin and Principles of the Bauddha and Jaina Religions : embracing the leading Tenets of their System, as found prevailing in various countries : illustrated by descriptive accounts of the Sculptures in the Caves of Western India, with translations of the cave inscriptions from Kanari, Ajanta, Ellora, Nasik, &c. indicating the connexion of these caves with the Topes and Caves of the Panjab and Afghanistan.* By JAMES BIRD, Esq., F. R. G. S. Member of the Royal Asiatic Society, and of the Bombay Medical Service.

ANALYSIS.

On looking at the Indian provinces, where unquestionable Bauddha monuments remain, we are surprised at the great extent of country, over which this religion was spread ; and view with wonder the relics which mark its former existence : scattered as they are from the caves of Balkh

Bamian, and the Indus westward, to the confines of Nepal and the Ganges eastward; from Kashmir and the sources of the Jelum, on the north, to the southern promontary of Cape Comorin, and the island of Ceylon. The state and principles of this religion, as now found existing in Ceylon, have been well illustrated and examined by the late Honorable Mr. Turnour; its condition and leading tenets in China, were learnedly expounded by the late Mr. Remusat; Mr. Hodgson in his various papers on Nepal Buddhism, published in Prinsep's Journal, has made us familiar with Bauddha religious literature in Nepal; and Mr. Klaproth has performed for us a like service regarding that of Japan. But relative to the inscriptions written in *Prakrit*, and found on the monuments and caves of this ancient religion throughout India, little or no information has been conveyed to us beyond what is contained in the brilliant discoveries of the late Mr. James Prinsep, on the subject of Asoka's monuments, and the observations of William Erskine, Esquire, on the remains of the Buddhists in India, published in the 3rd Volume of the Bombay Literary Society's Transactions. Our selections from the present work, therefore, though desultory, will be of interest to those general readers, who take some pains to inform themselves regarding the former state of India, both under its Hindu and Mahommedan rulers.

It has been ascertained, beyond doubt, that the earliest grammar of the Pali language, in which the greater body of Bauddha literature was written, was composed in the Dekhan; and it is a subject worthy of learned investigation to determine the relative antiquity of the Sanskrit and Pali grammatical systems; with which question the comparative antiquity of the Brahmanical and Bauddha religions is closely connected. In the publication from which we are now about to quote, the author, for the better investigation of his subject, has done so under the following heads:—

First, a description of the principal excavations of Western India.

Second, a sketch of the system of Buddhism, as it prevails in Ceylon, Burmah and Siam, Tibet, Tartary and China.

Third, translations of the Western Cave inscriptions, and the connexion of these with Buddhism as it now prevails in other countries.

Fourth, observations on the symbolical marks preceding the inscriptions; their similitude to those on the coins found west of the Indus and in the Panjab, and on the connexion between the *Topes*, or Buddhist mausolea of these countries, and the Western Caves.

Fifth. The history of Buddhism traced and illustrated.

Under the first head he describes the excavations of Karli, Kanari, Nasik, Junir, Aurungabad, Mahar, Ajanta, Ellora, Badami, and Mahamalaiapur. The caves generally consist of two classes. "In the first of them the objects of worship, represented by the sculptures, are confined to personages and manifestations of the deity belonging to the simpler and more philosophical form of Buddhism, which seems to have prevailed at its origin; in the second, the variety and modifications of objects worshipped have reference to the more complicated and extended Brahmanical Pantheon, the Sakta form of Hinduism, the worship of Śiva Bhairava, in conjunction with his consort *Uma*, or Parvati. The former, characterized by simplicity of design and execution, consist of one or more arched temples, which contain the *Dehgop*, or stone spire of an hemispherical form: and these are surrounded by flat roofed excavations, in which are found one or more sitting images of Buddha, a number of small cells, and sometimes broad benches running round the apartments, shewing that such were dedicated to the use of a monastic fraternity, and the education of disciples, who had abandoned the world in order to submit to religious discipline. These temples are further distinguished by having long inscriptions in a language, which is neither pure *Pali* nor *Sanskrit*, though approaching sufficiently near either to be intelligible through their medium: and the character in which it is written differs but little from that of the inscriptions on *Asoka's pillars*; which was in use we know during the third century B. C. To this class belong, as would appear, the caves of Karli, Kanari, Aurungabad, Nasik, Junir, Mahar on the Bankut river, and the southern ones at Ellora. The large excavation at Kanari, in the vicinity of Bombay, is further distinguished by having in front of it, on a ledge of the mountain, several small mounds, or burying places of *Rahats*, or *Saints*, who were tenants of the caves. One of these, a dilapidated pyramidal building of earth and stone, was opened by me in 1839; when two copper urns containing human ashes were found. In one of the urns there was a small gold box, containing a fragment of white cotton rag, accompanied by a pearl, a ruby, and some small pieces of gold: in the other there was a silver box along with the ashes. The most interesting relics however discovered on this occasion were two copper plates, one of which bore an inscription in the *Lath* character of the caves, and the other in a more florid writing, similar to that of the *Chattisgarh* and

Seoni inscriptions of the 8th and 9th centuries ; which has been aptly enough denominated the *Andhra* character, and from which the alphabets of the southern Peninsula were derived. The last part of this inscription contains the Bauddha creed as inscribed on the base of the image from Tirhut, and on the stone extracted from the Thupa at Sarnath, near Benares; identifying these as Bauddha Mausolea, with which the Thupas of the Punjab and Kabul are in other respects analogous.

“The second class of excavations, to which belong the nine middle caves of Ellora, those at Elephanta and Badami, are characterized by a more florid and laboured style of sculpture, representing groups of many armed figures of Vishnu and Siva in their various avatars; miniature scenes of battles from the sacred epics, the *Ramayana*, and *Mahabarat*; triad figures of *Siva* in union with the female principle, or *Uma*; and stone lingas in the recess. A greater grandeur of design and spirit of execution is observable in the figures of this class than in the simpler sculptures of the earlier Bauddha College, such as Kanari; and exaggeration is resorted to in order to give energy to the suggestions of imagination on subjects of religion to which they refer. Their architectural character too, from which the style of the ancient Hindu temples of the tenth and eleventh centuries, A. D. has been derived, would not indicate that such is the early efforts of a rude people, emerging from barbarism, but rather that it has been matured by experience: and that though the types of Buddhism and Saivism were not radically different, when the two religions emanated from a common system, yet the things here typified embrace so many Brahmanical combinations, that the very presence of Saiva symbols and images, in structures exclusively Bauddha, imply, that when such were executed, the tenets of both religions were matter of high debate in the civil society of India. The comparatively few inscriptions found in this class of caves, and the nearer approach of the letters to the present alphabets of the southern Peninsula, point out the more modern origin of the structures: while the smaller number of bells for the priests, compared to the extent of these caves, shew that they were less places of tranquillity and retirement, for monastic establishments, than of public resort and pilgrimage, or *Tirthas*, for the great mass of the people.

“The caves of Ajanta are of a character intermediate between these

two classes of excavations, possessing much of the extent and grandeur of the latter, but without the same marked traces of Hinduism, or of Tantrika principles, that are found engrafted on Buddhism at Ellora. Many of the Bauddha figures would here, however, appear to be distinguished by the symbolical representation of particular animals and things, which indicate some deviation from the original worship of *Buddha Sakhya*, and may be the origin of the Bauddha adaptation of Sakya's religion to Vaishnava principles, as explained in the *Sri Bhagavata*; by which the different descents and forms of the deity, as Vishnu, are made the origin of the *Jain* saints. The images in the different caves are characterized by being represented naked, or covered by a robe, and have distinguishing marks engraved on the pedestals, or *Sinhasan*; such as the ape, the lotus, the wild cow, the antelope, the goat, and the *kumbha* or jar; which are the appropriate symbols of the Jain saints, Abhimandanu, Padmaprabha, Vasupujaya, Santi, Kunthi, and Malli. The Bauddha religion of Nepal acknowledges indeed many forms of Buddha, mortal and celestial; but the presence of the *Jain* symbols, on the pedestals of the images at Ajanta, their clothed and naked representations, similar to the Swetambara and Digambara images of the Tirthankaras, and a sculpture of Garura, supporting the roof of one of the caves, have suggested to me the opinion, that while some of the neighbouring excavations at Ellora were dedicated to Tantrika principles and Saiva mythology, engrafted on Buddhism, those of the more primitive Bauddha caves at Ajanta, shew corruption from admixture with the more congenial principles of the Vaishnava faith. I give this opinion more with a view of future research, by those who may find leisure for investigating the native literature and annals of the Jains, than under the conviction that it is one admitting of proof; but as the Vaishnava and Saiva faiths divided the popular mind of India, from the fifth to the tenth centuries of our era, the opinion is worthy of consideration. The larger inscriptions too at Ajanta, though they may be long posterior to the excavations, are closely allied by the character of their alphabet, to the *Chattigarh* inscriptions of the eighth and ninth centuries, which have been already noticed."

Regarding the architecture of the caves, the author remarks, "Professor Heeren is of opinion that the style of modern Hindu architecture takes its origin from the pyramid; but on looking at the general character of this architecture, as developed in the temples erected, throughout the southern

Peninsula, posterior to the twelfth century of our era, I am rather disposed to conclude, that the model from which they derive their origin is the composite *Deghop* as seen in plate VI. The architecture of the caves is altogether of a monumental kind, possessing much of the colossal grandeur and vastness of the Egyptian style; with which, in the general outline, it possesses a similarity of design: the shafts of the pillars being cinctured, at intervals, by bands of three or more rings, or decorated, in other respects, by the spaces between the bands being reeded and sculptured with figures. The columns too have rarely any distinct base, and exhibit examples of double capitals, peculiar to Egyptian architecture; the square member of the cave pillars being sculptured with a figure of Buddha, as seen in plate XV, instead of the heads of *Isis* as observable on the sides of the Egyptian capitals."

The individual excavations are then described; and in the introduction to the work, and head,

Excavations of Ajanta,—we find the following observations. "These monuments which I have classed as intermediate between the simple Buddha caves, and those which have been termed Brahmanical, by Mr. Erskine, are nearly as magnificent and extensive as those of Ellora; which must, however, be reckoned of later origin, and mark the change of faith among the people of Western India from simple Buddhism to Saivism, and the orthodox system of Hinduism which is now prevalent.

"These excavated temples, known by the name of the caves of Ajanta, or the pass, are situated about three miles south-westward of the village of *Fardapur*, which lies at the bottom of the *Ghat* leading from Aurgabad into the province of Khandesh. The bed of a mountain torrent, winding through the rocky bottom of a ravine, leads to a deep and narrow dell; where the perpendicular face of the rock may be between two and three hundred feet in height, at the place where the caves commence. The repeated doublings of the ravine seem to cut off this sequestered spot from all communication with the world; and the dell at its further extremity narrows into a chasm, which is shut out, on either side, by precipices of rock at least a hundred and fifty feet high, where a cascade of seventy or eighty feet, after falling into a deep and capacious basin at the bottom, overflows to form the rocky torrent, just described, which is dry during the months of April and May. The sides of the ravine, where not precipitous, are clothed with wood; and the features of the

scenery, if not magnificent, are highly romantic, and have an air of wild solitude peculiarly striking.

"The caves are situated in the ravine on the right side, at about one third of its height; and following the winding course of it, from east westward about a quarter of a mile, describe more than the quarter of a circle. Those which were accessible and visited by me, during the hot weather of 1828, amounted to twenty two; but some new ones have been since discovered. Four of these are arched ones containing the *dehgop*, and the others are flat roofed." The former are genuine *Chaityas*, or temples dedicated to *Adi Buddha*, as in Nepal: the others are generally *Viharas*, or monastic institutions for the ascetics, in many of which are found images of *Buddha* seated on thrones, here sculptured with devices of different animals, now the distinguishing marks of the *Jain* saints, and perhaps appropriated to the different manifestations of *Buddha*. Since my visit a subscription was raised to remove obstructions and make pathways to the caves, and two new caves were thus discovered.

"The following drawings, which were made and lithographed by a native artist, convey a tolerably accurate idea of the style of painting and the subjects of the scenes; which represent rural processions, love and marriage, the storming of fortifications, and groups of women in various attitudes, particularly in the one of performing *Tapasya*, or religious austerity, on the *Asan Siddha* or holy bed of the ascetic. In others of the scenes, teachers are represented instructing their *Chelas* or scholars, in the art of mental abstraction, or *Dhyān*, by meditating on the blue lotus; six *Dhyāni Buddhas*, of which *Vajra Satva* is the sixth, are seen springing divinely from the lotus. Another of the paintings represents the contest of the *Asuras* to get back the ravished daughter of their king, who had been carried to the *Tavatimsa* heaven, or *Bhavana* of *Indra*, an account of which is communicated in Mr Upham's system of Buddhism. In the sculptures most of the figures have curled or wig-like hair, and their heads are generally covered by tiaras. The same are similarly represented in the paintings, which are executed "*alla fresco*," on a composition of white calcareous earth and cowdung, smoothed finely over with a thin coating of choona, or tufaceous lime, found in India. The women are always drawn without any covering to the breast, and their drapery has the form of a petticoat below, part of which is thrown

in some instances over the left shoulder, leaving the right breast bare. The dress of the men is nearly similar to that of the women, and the figures of both are painted black, blue, and other colours, among which however a yellow, or copper brown, is the prevailing one. Several animals as horses, elephants, and bullocks highly ornamented, are depicted; and some visitors remarked that three horses yoked abreast in a carriage were observable. A grave figure with curled hair, thick lips, and lobe ears, sometimes appears amongst the paintings, and is evidently of a character entirely different from the figures around him; and this with the striped petticoats of the women suggests an opinion that the people who executed the paintings were the subjects of the most illustrious prince of the Indies, named the *Balhara*, who was king of *Maharmi-al-adan*, or of those who have their ears bored, and that the inhabitants were subjects of the kingdom of Calabar, who were dressed in those sorts of striped garments which the Arabs call *Fauta*.

The Buddhas here represented, seem to be of all nations and colours, and have each a nimbus round their head similar to that round the heads of Christian saints, and which was not introduced we know previous to the establishment of our era. The people who frequented these religious shrines must have had an extensive acquaintance with various nations; and the nicely combed and curled hair of the women, whose locks, brought down in ringlets over the ears, descending on the neck, with the head dress or fillet which surrounds the brow like a muslin band, and the high tiara of the chiefs or princes, loaded with pearls, indicate artificial taste and habits at the time when these paintings were executed. Some visitors have remarked that Grecian military costumes were to be seen, but I did not observe any such at my visit, and the only thing of this kind which has come to my notice is the head covering of one of the figures drawn for me by Professor Orlebar, and which certainly has a very close resemblance to the Grecian helmet. Mr. Orlebar, in an account of these caves kindly communicated to me, remarks that these paintings are not historical, but seem intended to convey moral instruction, and that in the Indo Buddhist system, education was a primary object. In one of the Dehgop caves, a female worshipper of Buddha is painted in the act of teaching, surrounded by a group of smaller figures who are attentively listening, and among whom one seems to be a Brahman. In several of the scenes, representing masters teaching their scholars, the modern *Sannyasi* of the Hindus is observable.

There is one large painting already referred to, representing a siege. Mr. Orlebar remarks that, on the fore ground from the left, the besieging army is seen in advance, and consists of elephants, infantry, and cavalry under the wall of the town. Within the walls the king is seated on his throne and surrounded by attendants; while some of the besieged are throwing themselves down from the wall on the enemy; some are descending, and some have already alighted; and of these one spirited group represents a struggle between two of the besiegers, and a warrior whose dishevelled flowing hair shews that he has just alighted, and others are on their knees begging for quarter. The wall in its construction is as singular as the defence of it. It consists of a series of peaked battlements, in which there are no loop holes. The besieged are here represented with fair European countenances, while some of the besiegers are dark. The infantry of the latter are armed with a shield and sword, of a curious form, and with a short spear. Those mounted on elephants have spears, or bows and arrows; but their dress is generally scanty and they have apparently no defensive armour. The whole appears, as I have already said, to be an attempt of the *Asurs* to get back the ravished daughter of their king from the heaven of Indra.

Besides these, there are domestic scenes, seraglio scenes, processions, and portraits of princes, larger than the rest. There is an Abyssinian black prince seated on a bed along with a fair woman, to whom he appears to be married; here a fair man is dressed in a robe and cap like that of a monk or abbot, and there again, in other parts of the painting, are females seated in flower gardens surrounded by attendants, or are seen sitting within small buildings, with light pillars, resembling Chinese summer houses. Round the neck and over the right arm of many figures, male and female, the mystic triple necklace is disposed, while these hold in their hands the lotus, and appear as if engaged in the contemplation of some deep point of philosophy. Other figures, represented of a dark complexion and with curled hair, are standing on the lotus, and hold in their hands the discus, or *Chakra*, which is one of the sacred emblems in the *Phra Patha*, or divine foot of Buddha, and is typical of eternity and universal domination. We learn, from Captain Lowe, that, according to the Siamese ritual, the worshipper with uplifted folded hands is directed to enumerate it among the sacred emblems. The head dress of many of the figures, which is pyramidal, resembles the Persian tiara; and though less

peaked than the *Mukut*, or crest of Buddha, depicted in the Phrabat, it may be here, as in the other, emblematical of the solar ray, being analogous, in this respect, to the winged crown on the obverse of the Sassanian coins of Persia, the reverse of which is remarkable for a fire altar, and two wheels, or Chakras, over the heads of the officiating priests. The spirit of polytheism is disposed to imitation, so that the legends and practices of one sect are often appropriated by another. We need not therefore be surprised that the Bauddhists of Siam worship the sun, under the name of *Pra Athit*, as mentioned by Captain Lowe; or that we should find pure Buddhism, on the west of India, early corrupted by an admixture of the Sabeian and Magian faith; or blended, afterwards, as in Nepal, with the worship of Siva and Tantra rites. Shamanism, or the gross form of Buddhism, which exists among the Tartar tribes, is combined with astrological superstition of magic and sorcery; and, if it differs in practice, is similar in its doctrine with the *Kala Chakra* system of Tibet, which has been already explained in a note on authority of De Koros. Whatever apparent differences may exist between the style of sculpture, and symbols which mark the alliance of one class of cave monuments with a period when primitive Bauddhist notions prevailed, and of those which refer another class of them to a time, when these notions, were corrupted by foreign admixture; such may be ascribed with more truth to the spirit of imitation and the accommodating temper of superstition, than to the possibility of having derived their origin from rival sectaries, so opposite to each other as were the Bauddhists and Brahmans. The caves of the western coast are doubtless Bauddha, or Jain; and of the latter only a few remains are to be met with at Ellora, which may be posterior to the corruption of pure Buddhism by Tantrika principles.

Among the paintings at Ajanta there are several portraits; one of which is a Raja on his knees performing his devotions, and there are other four placid faces of men and women. The hair of the women is tied by a bandeau, after the fashion of the women on the Garrow hills near Bhagalpur; who are described by Mr. Elliot as having their hair bound with a tape, three inches long, so as to keep it back from their foreheads, though generally it is tied with a string on the crown of the head. There is also a portrait of a lion monstrosity not unlike an Egyptian sphynx. It is deformed by a cap being given to the curling hair of its head, and a girdle to its body, and has doubtless some emblematic

meaning, as it appears at the feet of a Buddha standing on the leaves of the lotus, below which the many headed Nag is painted.

Besides these there is a hunting scene, wherein dogs are represented with collars and short tails, and horses with saddles not unlike what we see in Europe. The borders and patterns on the roofs of the caves are extremely well painted, and many of them are even tasteful and elegant. Some of the colors are fresh as when they were first laid on, especially the light blue, but the red has generally faded into a dirty brown."

Caves of Ellora. These magnificent monuments, which belong to the second class of excavations, are next described, and under this head we find some preliminary observations regarding points of doctrine, wherein the *Bauddha* and *Jaina* sectaries agree or differ, from which the religious sculptures belonging to these particular sects may be appropriated to each of them. We quote the following:—"The two heterodox sectaries of *Buddha* and *Jina* agree in placing within the limits of south Bahar, and its immediate vicinity, the locality of the death and apotheosis of the last *Buddha*, and of the last *Jina*; disavow the *vedas*, and deities of the Hindu Pantheon; lived originally in a state of celibacy in religious societies, or monasteries, as we learn from the fables of the *Pancha Tantra*; select their priests from among the children of all branches of the community; have preserved for their sacred language the *Pali* or *Prakrit*, a dialect closely resembling the Magadhi or vernacular tongue of South Bahar; have nearly the same traditional chronology for the origin of the two sects; do not eat after sunset, and sweep the spot on which they sit down from their regard for the preservation of animal life. Both sects agree too in holding the doctrine of eternal atoms, which are the elements, earth, water, fire, and air; and which become the world's cause when in a state of aggregation, and of its dissolution when universally separated. This opinion they maintain in common with the *Vaisheshika* school of Hindú philosophy, of which *Kanada* is the author; and which is controverted by the more orthodox opinions of the *Vedantis* or the followers of the *Mimansa* philosophy. Though this information, regarding their early opinions, is obtained from the controversial disquisitions of their Brahmanical adversaries, it is essentially correct; and such opinions are perhaps more original than those now prevailing among the Bauddhas of Nepal; who, according to Mr. Hodgson, admit the *Pancha Bhuta* or five elements, of which the five *Dhyani* or celestial Buddhas

are personifications. The Nepalese also admit *Manasa* and *Dharma*, or the sentient principle and condition of merit, as the sixth *Dhyani Buddha*, but as these last do not appear to have been admitted by the earlier Bauddha sectaries in India, nor were such opinions mixed up with the *Saiva* and *Sakta ritual* in Nepal, until a later period, we should be cautious in drawing the inference that such were parts of original practical Buddhism; and the conclusion seems more rational that such *Tantra* rites and symbols were grafted on Bauddha speculation, as was the case we know with the *Gyut*, the seventh and last portion of the *Kah-Gyur* or great scriptural collection of Tibet. The first volume of this portion was introduced from the north it is said, into India, during the tenth century, and into Tibet during the eleventh." *

Succeeding these observations we find an analysis of the character of various sculptures, met within three separate classes of caves at Ellora, called the northern, middle, and southern. The first range consisting of the *Adi-natha*, *Jaggannatha*, *Parishrama*, and *Indra Sabhas*, with some minor excavations now nearly filled up with earth, have been called *Bauddha* or *Jaina* by Mr. Erskine. To these succeed the *Dumar-lena Jan-wassa*, *Kumarwara*, *Ghana*, *Nilkantha*, *Rumeswara*, *Kailas*, *Das Avatar*, and *Rikk Ravan*, which have been thought Brahmanical works, and belonging to this religion. The last or southern range, consisting of the *Tin-loka* or *Tin-tala*, the *Do-tala* or *Dukhyaghar*, *Viswakarma*, and the group of caves, called *Dehreh-wara*, are purely Bauddha ones, and similar to those of *Kanari* and *Karli*."

Of the individual excavations *Kailasa* is thus decribed:—"It is the most extensive and wonderful structure at Ellora, consisting of a Pagoda in form of a cone, about one hundred feet high, standing in a vast area of nearly four hundred feet in depth, and connected by two bridges and elaborate sculptures on an elegant portico; the upper story of which, rising above the gateway, contains the *Nandi* (Sivá's bull,) and appears to have been intended as a room for the accommodation of the band of musicians that attended at great festivals. On passing the gateway below, the visitor enters the area, and proceeding under a small bridge comes to a solid square mass of stone; the sides of which are sculptured with various figures, and support a room above, connected with the balcony of the

* See Analysis of the Kah-Gyur, by H. H. Wilson. Journal A. S. vol. I. p. 386.

gateway. The western face of this basement has a sculptured representation of what the Brahmans call *Lakshmi* seated on the lotus, and watered by the trunks of two elephants, similar to a sculpture of the same goddess from Mahamalaiapur, given by Dr. Babington in plate VIII of his report on these interesting structures. Brahmanical identification of this sculpture, as the *Sakti* among *Saiva* figures, would show how nearly the original creed of Bauddhas and Brahmans approached each other; and though most of the sculptures of Kailasa belong, as will be seen, to the favored religious sectarianism of Siva, the statue of the goddess is here represented agreeably to Bauddha ideas, which recognize the female divinity, *Adi-Prajna*, or *Adi-Dharma*, as symbolized by the *lotus*, or *yoni*; and manifested in Nepal as (*jalsa-rupa*) or the form of water. * On either side of this figure the passage opens right and left into the area, where are standing stone statues of two elephants, one of which is headless. Having passed these we are conducted to a second passage under another small bridge, that connects the upper room of the stone basement before mentioned with the body and upper story of the great temple. Two gigantic statues, similar to the usual representations of Buddha, are to be seen under the bridge at the second passage, and are usually named *Raja Bhaja* and *Ghatotkacha*; the latter of whom is mentioned, by the *Mahabharat*, as the natural brother of the *Pandus*. Two flights of steps lead from the first passage to the upper room which contains the *Nandi*, and is furnished with two doors and two windows. Opposite the latter there are two stone obelisks rising from the area below, and from this room, which is on a level with three small apartments over the gateway, the visitor may cross over the second bridge, and enter, (by a handsome open portico raised on lion pillars,) the grand apartment of the temple, which is supported by two rows of pillars. Two projecting portions, or balconies from the latter, appear to have been once connected, by a bridge, with smaller temples in the upper part of the scarped rock that encloses the area below. The hall of the great temple is about sixty six feet by fifty five in measurement, and the height of the ceiling varies from sixteen to seventeen

* Mr Hodgson's Notes on his sketch of Buddhism. Trans. R. A. S. vol. II page 249-253. In plates XXII and XXX of the Ajanta drawings, women are represented pouring water over the devotees, to remind them, as appears, of this essential principle of their faith.

fest. At the eastern end a doorway leads to a recess containing the *linga*; and the outer wall of the temple is sculptured with a profusion of imagery descriptive of a battle, which refers, as would appear, to the war of the *Kuravas* and *Pandus*, the theme of the *Mahabharat*. Interiorly a doorway, on each side of the recess containing the *linga*, leads to an open platform, where five smaller chapels rise in the form of a pyramid, and are elaborately sculptured with figures of the Hindu mythology, but contain no *lingas*.

Words cannot well convey an idea of this magnificent structure; on the right and left of which are several smaller excavations, in the upper part of the rock enclosing the area; and in rear of the temple, level with its base, three colonnades consisting of a single row of pillars, and corresponding pilasters, are seen between it and the northern, eastern, and southern scarps of the rock. Here between the pilasters, in the several compartments, are sculptured so many figures of the different divinities, as if they were meant to represent the whole of the Hindu Pantheon. Those in the *northern* colonnade, distributed in twelve compartments, are dedicated to the Saiva faith, and intended to represent its superiority to that of Vishnu. It is scarcely necessary here to enumerate the character of the several figures, as others have already done so, though not quite correctly; and I may satisfy myself and the reader by only alluding to some of the principal. The first on this side is the *linga*, surmounted by nine heads, which are those of the demon *Ravana* supporting the symbol, and who is said to have been so devoted a follower of *Siva* as to yield up nine of his heads to the service of this deity, and was about to sacrifice the tenth, that he might obtain immortality and universal dominion. The remaining figures are chiefly various representations of *Siva* and *Parvati*; number *seventh* is a *Bhakta*, or follower of this deity; and the *twelfth* one represents *Siva* issuing from the primitive *linga*, (pillar of radiance,) when he revealed himself to his consort *Parvati* or *Chandi*, to slay the demons *Chanda* and *Manda*, who, through a boon granted by the divine mothers, had become so powerful as to fill with alarm the three worlds; and who, though once subdued by *Devi*, were now exalted beyond her might. In the *eastern colonnade* there are nineteen compartments, containing figures that are also chiefly representations of *Siva's avatars*. In the *second* he has assumed the form of *Virabhadra* to destroy as appears *Dakṣa's* sacri-

fice ; though the Brahman attendants call this the destruction of *Tripura Asur*,* one of the three demons destroyed by Maheswara. In the succeeding one the same deity, as an archer, is standing on a chariot drawn by horses ; and with his upper left hand holds the extended bow, while the lower and third hand, on the opposite side, supports the trident. An elegant sketch of both figures has been given by Captain Grindlay, who calls the latter *Jayadharatha*, meaning nothing more than the bearer of victory ; but which is here a representation of *Siva* going to battle against *Jalandhara*, as related in the Padma Purana ; and of which the legend will be found in Colonel Kennedy's work on Hindu mythology.† The *sixth* compartment contains a figure of *Vishnu* in the form of *Narasinha*, or a man lion, destroying the demon *Hiranyakasipa*. From the *twelfth* to the *nineteenth* compartment, *Siva* appears in his character of eight *Bhairavas*. The southern colonnade contains a similar number of compartments as that on the north side. In the first of these, a figure half male and half female, is represented with one breast, being the type of the two productive principles of nature, and only another form of *Siva*, called *Ardha Nariswara*. ‡ The third compart-

* In all the Hindu legends regarding the destruction of demons, and varied considerably in different works, there would appear to be a veiled meaning or allegory, relative to the efficacy of penance and abstraction, or piety and virtue, raising their votaries to superhuman power, hostile to the religion of the *Vedas*, and the more recent introduction of the *Saiva* and *Vishnava* faith. The three demons here called *Tripura*, having received a boon from Brahma, obtained the construction of three cities, and had become so powerful as to occasion distress to the gods. *Siva* was applied to by the immortals for the destruction of the demons ; but while their chief adhered to virtue it was not allowable that this deity should slay them. The gods failing in their suit to *Siva*, next applied to *Vishnu* ; who, deluding the demons by heretical opinions propagated by a shaved head (or Buddha,) dressed in dirty clothes and holding in his hand a pot and besom, brought down destruction on the inhabitants of the city of *Tripura*, who had been initiated in the new doctrines. As the demons through the delusion of *Vishnu* had thus abandoned piety, *Siva* no longer hesitated to carry into effect the wishes of the gods ; and accordingly destroyed the *Tripura Asuras*. Col. Kennedy in his *Mythology* has given the whole of this legend from the *Siva Purana*, and mentions also the version of it as related in the *Bhagavata*.

† Hindu Mythology, page 485.

‡ The following passage, from the *Linga Purana*, translated by Col. Kennedy, in his *Hindu Mythology*, will familiarize the reader with the variety of epithets given to the forms of *Siva*, and his consort *Gauri*, or *Parvati* :—

ment contains a figure with four heads grasping a pillar, and intended for *Brahma* paying his devotion to the *Agni Linga*. In the fourth one, *Vishnu*, in the *Narasinha avatar*, is tearing out the bowels of *Hiranya Kasipa*; and in the succeeding one he is sculptured sleeping on *Sesha*, or the *Dharanidhara* of the Jains, the serpent who supports the universe, and the well known representation of *Vishnu* as *Narayana*, who is thus addressed in the first hymn of the *Atharvana Veda*:—"Glorious *Narayana*, celestial light—*Narayana*, the universal spirit—*Narayana*, the supreme *Brahma*, to thee be veneration.—*Narayana*,—God of

"Siva is the Supreme Being, and Gauri is his energy; Siva is the male, and Gauri the female principle of existence; Siva is the meaning, and Gauri the voice; Siva is the day, and Gauri the night; Siva is the sacrificer, and Gauri the sacrifice; Siva is the heaven, and Gauri the earth; Siva is the sea, and Gauri the tide; Siva is the tree, and Gauri the fruit; Siva is *Brahma*, and Gauri *Savitri* (the wife of *Brahma*); Siva is *Vishnu*, and Gauri *Lakshmi*; Siva every male, and Gauri every female being; actuality is Siva, potentially Gauri; a multitudinous sparks issue from fire, so multitudinous forms of a two fold nature proceed from Siva and Gauri, of which the outward form is Gauri, but the spirit Siva; the senses are Gauri and the power of perception Siva; intellection is Gauri, and the intellect is Siva; the pedestal is Gauri, and Siva is the lingam, the object of unceasing worship by men and gods; all things of a feminine nature are Gauri, and all of a masculine, Siva; the three worlds are but the form of Gauri, whose soul is Siva. Thus are Siva and Gauri the causes of all things, the preservers of this universe, and those to whom the adoration of men ought at all times to be devoutly addressed,"

The prototype of the same goddess, in Egypt, appears to be *Isis* or *Math*, the mother goddess; who like *Ambica*, (motherly,) or *Parvati*, was named the mundane habitation of *Horus*, or the recipient of productive power, and like the Hindu goddess, is represented more in her *physical* than *astral* character: in which latter she becomes the *Nanaia* of the *Ard-okra* or *Mithraic* series of coins found in the Punjab, and was among the Persians and Greeks, the *Queen of heaven*, sometimes the moon and sometimes the planet *Venus*. The goddess *Uma* (mother) of India appears to have had appellations similar to those given to the Egyptian goddess; and is called on the *Rathas*, (or evolutions of form), at, Mahamalaiapur, *Bhuvan Bhajana* भुवन भाजन: or the mundane vessel. She is there depicted with only one breast being the masculine-feminine principle of production. (See Dr. Babington's figures from the east side of the *Rathas*, No. 3. Trans: R. A. S. Vol II plate XVI). But I must not anticipate conclusions from facts connected with the very interesting coins, which have been discovered of late years in the north west of India; to the illustration of which I propose to devote another volume, calculated I hope to shed light on the History and Mythology of India.

gods, preserver of the universe.—Narayana contemplator supreme, to thee be veneration.—Narayana the supreme veda, the great wisdom.—Narayana, thou art all things and manifestly present, to thee be veneration.—Narayana, from whom Brahma originated, from whom Siva sprang.—Narayana, from whom Indra was born, to thee be veneration.—Narayana, the sun and moon—Narayana, light and sacrifice—Narayana, visible in fire, to thee be veneration.—Narayana the object of worship, and the pious preceptor—Narayana, eternal emancipation, to thee be veneration.—Narayana, the chief end and accomplishment and happiness of all—Narayana, the sun and Vishnu, to thee be veneration.” The seven heads of the *Naga*, or serpent, form a canopy over the head of the recumbent figure, as seen in the sitting images of *Parśwanatha*; and from its navel springs a lotus, on which Brahma sits. The whole must be intelligible to the reader from the substance of the hymn just quoted, shewing how intimately the primitive notions of Bauddhas and Brahmans were connected with the worship of the sun and sacrifice; till such gave way before abstract meditation and seclusion, with a tender regard for animal life. The last however, as the means of obtaining emancipation and final felicity, yielded to the preference given to the faith in particular divinities, of which there are strong indications in the sculptures we are now contemplating. The remaining figures have chiefly reference to the incarnations of *Vishnu*, as stated in the *Bhagavata* and *Garuda Puranas*, regarding which I before hazarded a conjecture that the adaptation of primitive *Buddhism* to *Vaishnava* principles had given origin to the present form of the Jaina faith.*

The sixth compartment contains a figure of *Krishna* attended by cows, in his character of the cowherd of *Vindravan*; and which from its resemblance to that of the *Apollo Nomios* of the Greeks, bears strong indication of a foreign origin. In the seventh, *Vishnu* is hurling from his throne the giant *Bali*, and traversing earth at a footstep; according to the legend that when the giant gave him, in his dwarf avatar, as much ground as he could cover in three steps, he placed his feet on the three worlds. *Vishnu*, in the *Varaha avatar*, or incarnation of a hog raising up *Prithivi*, or the earth, that had been submerged by the waters, is sculptured in the ninth compartment; and similar sculptures

* See page 75.

to those just mentioned, may be seen among Dr. Babington's drawings from Mahamalaiapur. The tenth compartment represents *Krishna* slaying the serpent *Kaliya*, that had poisoned the pure and sacred river Yamuna, and caused the death of many of the cowherds of *Vindraavan*. The coincidence between this legend and that of the snake at Delphi, killed by the Pythian Apollo, must be more than casual; and would lead one to conjecture that the tribe of the *Yadavas*, from which *Krishna* sprung, was a northern one, having access to the mythological legends of Greece.*

Chapter second is devoted to Bauddha opinions, and religious tenets in various countries; and regarding the general principles of the Bauddha religion, and the designation of the Bauddha sectaries, we quote the following. "Prior to the publication of Mr. Hodgson's essays, on Nepal Buddhism † much obscurity prevailed in the different accounts of this religious system; rendered yet more unintelligible by European authors having blended the physical and moral parts of it, so as to leave little distinction between, what relates to the nature of a first cause, giving origin to the world; and what to the vital and human soul, produced for the expiation of sin, or to raise man above the power of the passions, and the influence of corporeal impressions; till, in a spirit of philosophy, and true knowledge, (the *γνώσις τῶν ὀντων* of Pythagoras,) he had reached that perfection which assimilates him with Divinity. To clearly comprehend the subtle speculations, and over refined metaphysics of this religion, it is necessary to remember that its anthropology, which had its origin with *Gautama*, or *Sakya Sinha*, presents a series of the same human degradation and regeneration, as is observable in the periodical revolutions of the physical world. Each of the Bauddha schools teaches, that, at the expiration of long periods of time, this world is destroyed and reproduced; and that the living creatures of former worlds, who had not yet fully expiated their sins by abstraction of the mind, and mortification of the body, dying in the *Abhassara brahma*

* It is still more remarkable that Krishna's appellations of Govinda and Kesava, गोविन्द केशव, in Sanskrit, are direct translations of Apollo's titles, in Greek, νόμιος Nomios (the herding), and εὐχάιρης Eukhaïtes (the well haired).

† Mr. Hodgson's various papers, A. R. Vol. xvi. p. 421, T. R. A. S. Vol. ii, p. 222, and Prinsep's Journal, Vol. iii and v.

loka, one of the celestial mansions, the scene of mortal transmigration, return to each new world; deprived of the natural effulgence, which prevented them from being affected by corporeal perceptions, or by the influence of passion and a spirit of discord.* The Suttans (aphorisms) of Ceylon, and the scriptures of Nepal, relative to the origin of mankind, seem uniform in their accounts; describing generative creation as a degradation, by successive emanations, and maintaining opinions similar to the *Theosophes* of some among the Christian Gnostics; who paid continual attention to the state of the soul, by meditation on the divinity, as being the source of inexhaustible love. Their science, according to Clemens of Alexandria, consisted of two parts; of which the *first* was occupied with divine things, considering the first cause by which all had been made, and without which nothing that is, can exist; examining the essence which penetrates and unites one substance with another: while they sought to discover the powers of nature and asked to what end they tended. The *second* part treated of human things, of the condition of man, of his nature, and what he ought to do and suffer; here examining his vices and virtues, and the means by which happiness could be attained. †

* Sangermano, from Burmese authority, regarding the felicity and misery of beings that live in this world, states that the Bauddhas say, at the death of a man, animal, or other living being, the soul perishes together with the body; but then, from this complete dissolution another individual springs, which will be man, or beast, or Nat, (celestial spirits,) according to the merits or demerits of the actions done by its predecessor during life. Through this successive series of dissolutions and regenerations, all beings go on, for the duration of one or more worlds; till, at length, they have performed such works as render them worthy of the state of Niban (nirvan), which is the most perfect of all states; or one of quiescence as before explained. Sangermano's description of the Burmese Empire, Chapter iii, par. 6; also Mr. Turnours translations of the *Agganna Suttan* of Ceylon; and Mr. Hodgson on Buddhism. Trans. R. A. S. Vol, ii, p. 235.

† These characteristic opinions among the *Christian Gnostics*, to be met with in Clementis Alexandrini Stromatum, Lib. Sept. have been thus embodied by M. Jacques Matter, in his *Historie Critique du Gnosticisme*, Tome second, page 98. Clemens says, "Dei ergo cultus est continua animæ cura qui est prædeditus cognitione, et ejus perpetua in Deo occupatio per charitatem, qui nunquam intermittitur. Cultus non qui versatur circa res hominum, unus quidem est qui reddit meliores: alius vero, qui in ministerio occupatur: medicina quidem corpus, philosophia vero animam reddit meliorem. Clementis Alexandrini Opera, Græce et Latine, a Frederico Sylburgio, fol. 700.

The *Bauddhas* or *Saugatas*, as followers of *Buddha Sugata*, are frequently called *Nastikas*, or atheists, being disowners of another world; and the term *Jina* or *Arhata*, importing the subjugation of passion, is used to designate the *Jainas*. The last, in reference to the nakedness of one class, are denominated *Digambaras*, while the less strict sect, "clad in white," are named *Svetumbaras*. *Buddha Muni* or *Gautama*, the reputed founder of the *Bauddha* sect, is the author of *Sutras* (aphorisms,) constituting the body of his doctrine, termed *Agama*; which, from different constructions of the text, has given rise to four schisms or schools, called the *Madhyamika*, *Yogacharya*, *Sautrantika*, and *Vaibashika*. * The same division of these sectaries, as known to the Brahmanical opponents of their doctrines, exists in the Buddhism of Tibet,† and appears not to be materially different from the four leading schools of Nepal, as explained by Mr. Hodgson. In as far as we can now judge, the identity of opinions among *Bauddhas*, in various countries, may be admitted; and we need not hesitate to express our belief that this religion is a uniform system spreading from a common source, however it may seem to vary, by minor differences of tenets, among particular people. It possesses too a body of religious literature; which, whether in Ceylon, Burmah, Nepal, Tibet, China, or Japan, seems identical in its general principles; being more vulgar or refined, atheistical, or theistical, according to the standard of speculative opinion among its followers. In China, Ceylon, and Burmah, the atheistical system seems prevalent, while in Nepal the theistical is generally accepted, and is also acknowledged in Tibet."

On the subject of agreement between the creeds of the *Bauddhas* and *Jainas*, and the principles which distinguish the primitive followers of the latter, the author makes the following observations.

"The appellation of *Arhatas*, (saints.) by which the more ancient of the Jaina sect appear to have been known, seems applicable to such of the *Digambara* teachers as were deified by their followers; and who except in some minor points of doctrine, recognizing *jiva* (life,) or *manas* (the

* Mr. Colebrooke on the Philosophy of Indian Sectaries, Trans. R. A. S. Vol. i p. 558.

† Notices of different systems of Buddhism, from Tibet authorities, by Alex. Csoma Korosi. Prinsep's Journal. Vol. vii, 142.

sentient soul), distinct from *Parmatma* * (supreme intelligence), and admitting *akasa* (ether), as the fifth element, were in no respect to be distinguished from the *Bauddas*, or followers of *Gautama*. Like the Christian Gnostics and followers of *Saturnine*, they distinguished the *Bodhatma*, (intelligent soul,) or the $\pi\nu\epsilon\upsilon\mu\alpha$ and $\nu\omicron\upsilon\varsigma$, spirit and intelligence, from the *Chaitana Atma* or $\psi\upsilon\chi\eta$ $\zeta\omega\tau\iota\kappa\eta$ † (the sentient soul). Colebrooke draws the conclusion that the *Sarmanes*, distinguished from the *Brachmanes*, by Clemens Alexandrinus, in the end of the second century of our era, were the Gymnosophists of the Indians; an appellation that seems to him more applicable to the sect of *Jina* than that of *Buddha*, who is said to be the author of distinct precepts, and worshipped as a god, on account of his distinguished virtue. ‡ It does indeed

* Mr. Colebrooke on the *Nyaya*, or dialectic school of Hindu philosophy, Trans: R. A. S. Vol. I. p. 99, and again on the Bauddha sectaries, at page 550; also Delamaine on the Jains, page 416 of the same volume. It appears from the analysis of the *Kahgyur*, by Professor H. H. Wilson and Alex. Csoma Korosi, that the *Prajna Paramita*, or transcendental wisdom of Tibet, like the Karmika system of Buddhism in Nepal, teaches the existence of the *Shad Ayatan*, or seats of the six senses, admitting *manasa* as the sixth, and recognizing *Akasa* (ether), as the fifth element, which though reckoned by the *Nyayikas*, was disputed by the *Bauddhas*, and even by the most primitive *Jains*, if Mr. Colebrooke's exposition of these doctrines be correct. See Prinsep's Journal, Vol. I. p. 377. Mr. Hodgson's quotations in proof of his authority on Buddhism; in Prinsep's Journal. Vol V. p. 80. and Trans: R. A. S. Vol I. p. 551.

† *Historie critique Du Gnosticisme, et de son influence, sur les sectes religieuses et philosophiques des six premiers siecles de l'ere chretienne* Vol I. p. 281; and Colebrooke on the Jains. Trans. R. A. S. Vol I p. 551.

‡ Mr. Colebrooke in his account of the Jains, has overlooked one passage of Clemens, that more clearly distinguishes them from the *Bauddhas* than the one he has quoted. It makes particular mention of the *Dehgop*, or pyramidal altar covering the bones of Buddha. "*Brachmanes quidem certe neque animalium comedunt, neque vinum bibunt: sed aliqui quidem ex-iis, quotidie sicut nos, cibum capiunt; nonnulli autem ex-iis terri quoque die, ut Alexander Polyhistor in lib. de rebus Indicis. Mortem autem contemnunt, et vivere nihil faciunt: credunt enim esse regenerationem: aliqui autem colunt Herculem et Panem. Qui autem ex Indis vocantur Σεμνοί, id est honesti ac venerandi, nudi totam vitam transigunt: li veritatem exercent, et futura prædicunt, et colunt quandam pyramidem, sub qua existimant alicujus Dei ossa reposita. Neque vero Gymnosophistæ, nec qui dicuntur Σεμνοί, id est venerandi, utentur mulieribus, hoc enim præter naturam et iniquum esse existimant: qua de causa seipso castos conservant. Virgines autem sunt etiam mulieres quæ dicuntur*

appear that the *Jainas* are particularly meant; and that the sect here intended were the *Digambaras*, who are also called *Allobi*, अल्लोभी (exempt from passion,) and are so named by Col. Miles in his account of this religion. But both sects, who appear to have lived together as people of one religion, are indiscriminately called *Arhatas* and *Sramanas*; and among the followers of *Buddha* those who have obtained superior proficiency in *Bodhijnan* (divine knowledge), and are segregated from the community of monks, are styled *Arhans*; while the rest of the congregation are divided into different degrees of proficiency, and named *Bhikshu*, *Sravaka*, and *Chailaka*. The laity of the Jains engaged in secular employment, and obeying the precepts of their scriptures, without practising ascetical devotion, are called *Sravakas*; one of the appellations for a Bauddha proficient. Their priests too are the *Saddhus* (Saints), and the *Yatis*, or secular instructors. The former denomination is of similar meaning as *Arhat*, corrupted in Burmah into *Rahatan*, and applied to designate members of the monastic fraternity generally; while in Nepal the same class are called *Bandyas*, and in China *Bonzes*. The general principles of agreement in opinion between the *Bauddhas* and *Jainas*, disavowing the divine origin of the *Vedas*, and appealing rather to reason than to revelation, or authority, accompanied by a tender regard for the preservation of animal life, have been pointed out in the preceding pages; and we are now prepared to consider the extent and quality of the religious literature, possessed by both sects."

The conformity of the Bauddha principles of belief with the tenets taught among the ancient Sabeans, is thus noticed

"Some of the general principles of the Bauddha religion have been noticed in previous pages of this work; so far as such were deemed necessary to the better understanding of changes that have taken place in *Systems of Hindu belief*; and are yet reflected, to the eye of the observer, from the sculptures of *Ellora*, *Elephanta*, and *Badami*. Various systems of philosophy, similar in outline and object to the Grecian schools, are known to exist among the Hindus; and the leading tenets of two of them, the *Sankhya Darshanas*, or the numeral or rational system, are

Σειμναι, Videntur autem observare cœlestia et per eorum significationem quœdam futura predicere." The Greek appellation Σειμναι, used in the above passage is like the *Pali Sumana*; meaning an ascetic, or devotee, and the same as the Sanskrit *Sramana*.

remarkably identified with the only two *philosophical schools* of the Bauddha religion, the *Mudhyamika* and *Yogacharya*. The object of all, however, was, by the exercise of judgment or reasoning, to *discriminate spirit from matter*, *Purusha* from *Prakriti*, or *soul from nature*; till having ascended by regular steps to perfection, the sage was able to distinguish the *root*, or *plastic origin* of things, from that modification of them which is distributive, and pertains to individual beings. It was thus he learned to identify himself and all things with the source from whence they came, and to which, after a life of virtuous penance, he was doomed to return, escaping the evil of transmigration into other forms. Final excellence (*nishreyas*,) and deliverance from evil (*moksha*,) are the promised rewards of a thorough knowledge of the principles taught by this religion: but this state of felicity is, among *Bauddhas* and *Jainas*, more commonly expressed by the term *nirvana*, profound calm, or imperturbable quiescence. * The characteristic tenet of the *atheistical Sankhya* of *Kapila*, and of the *Nepal Bauddha School*, called by Mr. Hodgson *Swabhavika*, seems to be that matter is *eternal* and *productive*, and that *God*, or the intelligence of this system, is rather the energy of *necessity* and *chance*, than the *ruling creator* of the universe. That however which principally distinguishes its opposite, the *theistical School* of *Patanjali*, is that an *intelligent agent* is superadded to elementary matter, and acknowledged as *God*, or *Iswara*; but who is unconcerned with good or bad deeds, and their consequences, though *omniscent*, and instructor of the earliest beings that had a beginning (the deities of mythology). † This more nearly perhaps identifies itself with the *Prajnika Swabhavika* ‡ system of Nepal, than with the

* See Mr. Colebrooke's Essays on the atheistical and theistical Schools of the Sankhya philosophy; and on that of the Bauddha sect. Trans R. A. S. Vol. I page. 95—566.

† Ward's Account of the Hindus Vol 1.

‡ *Swabhava*, a compound of *Swa* (own) and *bhava* (nature), is meant to express that all specific forms result from spontaneous, or instinctive creation; and *Prajnika*, from *pra* (the intensive prefix), and *jna* (wisdom), implies the material goddess *Prajna*, or intellectual energy superadded to crude matter, for the purposes of creation and the evolution of things. In this it differs from the School of *Patanjali* who makes this agent, or energy, *Iswara*; while the *Aishwarika School*, like the *Brahmanical*, appears to teach that all material forms proceed from *Maya* (illusion), and are in action, or *Pravritti*, but emanations of the deity. "Body, (says the Swayambhu purana of Nepal), is com-

purely theistical, or *Aishwarika School*, which acknowledges the *self-existent God*, or the first *intellectual essence*, as *Adi Buddha* revealed by his own will, and immaterial in his essence. The primitive Bauddha atheistical doctrine does not, as before noticed, admit of a triad: nor was such recognized by the two schools of the Sankhya, till a modification of their principles, taught in the mythology of the *Puranas*, ascribed the origin of the world (Sangha), to the union of the active (Buddha), and passive powers of nature, * (Dharma:) which *three*, in the *aggregate* were one person or *deity*; but *distributive*, were analogous to the gods *Brahma*, *Vishnu*, and *Maheswara*. This triadic doctrine is solely referable to a state of *Pravritti*, (energy and change,) or the evolution of things; and may, as Mr Hodgson remarks, be resolved into a *duad*, similar to the *Yin* and *Yan*, † or the imperfect and perfect principles of the *Chinese rational system*, and astronomical creed of the *Sabeans*, and *Fire worshippers*.

Masudi, in his meadows of gold and mines of jewels, ‡ gives so clear a view of the *dualism* of these doctrines, and the introduction of them from *India* into *China*, that I cannot better strengthen the opinions now given than by here quoting, and translating from Arabic, his account. "The religion of the Chinese," says he, "is that of ancient times, a faith

pounded of the five elements. Soul which animates it, is an emanation from the self-existent." The last, as we shall have occasion hereafter to show, appertains rather to the modern *Jainas* than to the *Bauddhas*: for, in *Burmah* at least, it is pronounced heretical; and Sangermano, in his account of the laws of Gautama, says, "The last of these imposters taught that there exists a Supreme Being, the Creator of the world and of all things in it, and that he alone is worthy of all adoration. All these doctrines of the six false gods are called the laws of the six Deities, demons." Tandy's Translation of Sangermano, page 81.

* It would thus appear that both the *Swabhava*, and *Prajnika Swabhavika Schools* of Buddhism, are essentially atheistical in their principles, and teach materialism: for, as Mr. Colebrooke observes of the Sankhya philosophy, these may be said to affirm two eternal principles, *soul and matter*: though *Prakriti*, or nature, abstracted from modifications, is no other than matter. See Colebrooke's Observations on the Nyaya School: Trans. R. A. S. Vol: 1. p. 95.

† These are the male and female principles, the active and passive elements; the *tamasa* and *rajasa* of the Hindus, or the qualities of *depravity* and *passion*.

‡ See his account of the Chinese, in the Arabic history called *Murawwaj-az-zahab-wa-madin-al-jawahir*.

called *Shaminah*, * (Samanian,) similar to the practical devotions of the *Korish*, prior to the advent of *Islamism*; as they worship idols, and turn towards them in their prayers. The intelligent among them invoke by prayer the creator; and place before them, as an altar or type, the images and idols; but the ignorant, from want of knowledge, associate such with the divine creator, and relying on them as his partners, think that adoration of these conducts them to the resting place of God, though, in their devotions, such be considered of inferior rank, and less worthy of worship, than the Lord God, Most High by his glory, greatness and power. The worship of idols, therefore, though inferior to his praise, is the means of approaching him; and such was the cause of its beginning and origin, among the Chinese, through intercourse and familiarity with the *Grandees of India*: an opinion which is prevalent both among the learned and unlearned of the latter country, as we have already related. This is the current tradition among the people of China, relative to the doctrine of the *two principles* and *mundanists*; and though they differ and dispute concerning them; yet, amidst all their rules, they adopt such part of their ancient law as seems best to them. Their country adjoins that of *Soghd* (Sogdiana), and their tenets, as before related, are those of the *Moghaniah*, (Magians or fire worshippers,) relative to opinions on light and darkness. Previously they were a truly ignorant people, and their principles of belief were similar to those of the Turks; till such time as a *fiend of a fire worshipper overcame them by his opinions*, and taught that every thing in this world, is in a state of enmity and opposition; such as life and death, health and sickness, light and darkness, riches and poverty, collection and division, conjunction and disjunction, sunrise and sunset, existence and non existence, day and night, with such like things.”—

On the reputed age and origin of the two earliest *Bauddha* schools, the *Madhyamika* and *Yogacharya*, we have the following historical observation. “The four schisms, or schools, to which the opinions of *Buddha Muni*, *Sakya Sinha*, or *Gautama* gave rise, have been noticed in the first part of this chapter; and the leading tenets of the *Madhyamika* and *Yogacharya*, with their relative identity to systems of Hindu philosophy, have just been briefly stated. It is of some importance, however,

* This word is derived from the Persian, *Shamya* شمایا, interpreted heaven; but is explained in the Dictionary called *Burhani Kaatia*, to be a Syriac word meaning significant light, or understanding.

in tracing the rise and progress of Buddhism, to ascertain about what period these schools originated. The third convocation of the Buddha priesthood, according to the authority of the *Ceylon scriptures*, took place in the reign of *Dharma Asoka*; but agreeably to the *Tibet books* it is assigned to the time of *Kaniska*, a king of Northern India, reigning about four hundred years after the death of *Sakya*. At this time however, his followers had separated themselves into *eighteen sects*, under the four principal divisions already recorded: and from what is related in the biographical account of *Nagarjuna*, who is the reputed author of the *Madhyamika*, it appears, that, as an orthodox follower of Buddha, he denounced the six *Arhats*, or mortal predecessors of *Gautama*, who are recognized both in China, Tibet, and Nepal. Our knowledge of this fact rests on Mr. Turnour's translation of a passage of the *Raja Tarangini*, a history of Kashmir, which has been differently interpreted by Professor Horace Wilson. I am disposed, however, to prefer the former; as from what I have been able to ascertain of the origin of the *Jainas* from the *Bauddha* sect, and the consequent derivation of their sacred language, the *Prakrit* from *Pali*, their separation seems to have taken place about the time of *Nagarjuna*, and to have originated in some such difference of opinion as gave a preference to *Kasyapa*, the *Brahmanical predecessor* of *Gautama*, and made him the author of a system of religion which was once common to both.

Nagarjuna, the same as *Nagasena* of the Pali work called *Milindapanno*, was, as would appear, a *Bauddha hierarch*, who lived B. C. 43. He is celebrated for a controversy on the subject of his religion, with *Milindo*, the Raja of *Sagala*, a city well known to Greek history, and otherwise named *Euthymedia* or *Euthydemia*, having been so called in honor of the Bactrian king *Euthydemus*; who, after successfully directing an insurrection in Bactria, against the Seleucidæ, pushed his conquests into India, and established this city under his own name. * Some are of opinion that its Grecian appellation of *Euthydemia* was imposed on it by his son *Demetrius*; who, after his father's death, and that of *Menander*, seized on that portion of the *Bactro-Indian* empire which had been theirs. Difference of opinion too exists as to the particular site of this city, which, in the time of Alexander the Great, was called *San-gala*, and is said, in Arrian's history of India, to be situated between the two last rivers of the *Panjab*, the ancient *Hydraotes*, and *Hyphasis*, or

* See Danville's Ancient Geography, Vol. II. p. 105.

the modern *Ravi* and *Vipasa*. The town of *Hurrepah*, south west of Lahore, and distant from it somewhat more than sixty miles, has been, with apparent truth, identified by Mr. C. Masson, as the site of *Sagala*, which, in Alexander's time, was the capital of the *Kathai*, *Kshatriyas*; * and is mentioned in the Kerna Parva of the *Mahabarat* under the name of *Sakala*. † In the latter, it is called a city of the *Bahikas*, otherwise named *Arattas*; who are said to be without ritual, or religious observances; and who, as distinguished from the pure *Hindus*, or followers of the *Vedas* and orthodox system, must have been *Bahalikas*, Bactrians, or of *Indo Scythian* extraction. The inference, that the people of *Sagala* belonged to the latter, is rendered more certain by facts, that this city is mentioned, in the Parthian mansions of *Isidorus Characenus*, ‡ as belonging to the *Sacæ*, or Scythians; and by Ferishta's history, and the Persian romances again mentioning that one of its Rajas was assisted by *Afrasiab*, in a war against the celebrated *Kaikhusrau*, or Cyrus. A point of connexion, between the *Græco-Bactrian* kingdom and one of the earliest schools of Bauddha philosophy, seems thus established with tolerable certainty, and the name of the city of *Sagala*, met with in the western cave inscriptions, must afford additional proof, that the religious opinions and ritual of Buddhism were not uninfluenced, in the north of India, by the mythology, if not the philosophy of the Greeks. *Nagarjuna's* principal disciples, according to the Tibetan books, were *Arya Deva* and *Buddha Palita*, and though the latter may not be the same as the *Buddha Palit* of No. 23 inscription from the Buddhist tope at Bhilsa, the occurrence of this name, on a monument of such antiquity,

* According to the manner of derivatives from Sanskrit, the Ksha 𑀓 of the latter is changed into Kha ख, and ther र being always omitted in Pali words, the Sanskrit appellation, for a man of the military classes, *Kshatriya* क्षत्रिय, thus becomes in Pali *Khatya*, a name not far removed from the Kathai of the Greeks, which seems a corruption of the original word.

† See Prinsep's Journal for 1837. p. 57, and Asiatic Researches. Vol. xv. p. 108.

‡ Isidorus wrote after the flight of Tiridates, about A. D. 36, and mentions the city in these words "Hinc Sacastana Sacarum Scytharum, quæ et Paratacena, schœn : 63, ubi Barda urbs, et Min urbs, et Palacenti urbs, et Sigal urbs; ubi regia Sacarum, propeque Alexandria urbs, et non procul Alexandriopolis urbs: vici etiam sex," Geographiæ veteris scriptores Græci Minores, Vol. II.

should not at least pass without remark. Regarding the probable age of the *Yogacharya* school, the Tibetan books mention that the principal works on this system are referred to *Arya Sanga*, about the seventh century of our era.

Two other schools of Bauddha doctrine, the *Sautrantika*, and *Vaibhashika*, which are rather dogmatical, existed among the early sectaries of this religion; and were, as Mr. Colebrooke observes, anterior to the age of *Sankara-Acharya*, and *Kumarila Bhatta*, the last of whom instigated a persecution of the Bauddhas, by which they were driven from Hindustan. Could the authority of Tibetan books be trusted, the origin of the last of these schisms would be placed in the middle of the sixth century B. C. and immediately after the death of *Gautama*: but there is reason for mistrusting the narrative of events related by the early Bauddha annals, which can only be considered authentic from the well established period of the Emperor *Asoka*. The same division of Bauddha sectaries, as known to their Brahmanical opponents, exists among the Bauddhas of Tibet, whose books mention that the *Vaibhashika* consisted of four principal classes, originating with Sakya's four disciples: who are called *Rahula*, *Kasyapa*, *Upali*, and *Katyayana*.* The latter, called in Pali books *Kachchayano*, was an inspired saint and lawgiver, who corrected the inaccuracies of *Panini*, the father of Sanskrit grammar; and is acknowledged, by the literature of Ceylon, to have been the author of the earliest *Pali* grammar; from which the oldest compiled version, called the *Rupasiddhi* was composed in the *Dekhan*. † The identity of the author is, Mr. Colebrooke says, involved in the impenetrable darkness of mythology; ‡ but if the era of *Gautama* be accurately fixed, and the early annals of Buddhism allowed to be authentic, the origin both of *Sanskrit* and of *Pali* grammar must be dated six centuries B. C: but this is a subject which is yet imperfectly investigated.

Both the *Sautrantika* and *Vaibhashika* sects admit the existence of external objects and of internal sensations; distinguishing, under the former, elements, (*bhuta*), and things appertaining thereto, (*bhautika*) which are organs and sensible qualities. They reckon, under the latter,

* See notices of different systems of Buddhism, extracted from the Tibetan authorities by Alex. C. Koros. Prinsep's Journal for 1838. p. 143.

† Introduction to Mr. Turnour's translation of the Mahawanso, page XXV.

‡ See Asiatic Researches: Vol. VII. p. 199.

intelligence, (*Chita*), and what belongs thereto, *chaitta*. The elements are only *four*, consisting of atoms, which when conjoined, form compound substances, or bodics, the objects of sense that are apprehended by individual consciousness, or intelligence, dwelling within body. The *Vaibhashikas* acknowledge the *direct perception* of exterior objects, and the *Sautrantikas* contend for the *mediate apprehension* of them, through images presented to consciousness: but both are of opinion that objects cease to exist when no longer perceived, and teach that, both in the physical and moral world, events are but a concatenation of cause and effect, which are *unreal* and momentary. A belief to the contrary, or in the durability of objects, arises from *avidya* or error; to remove which, these schools maintain that the object of knowledge is the destruction of percipient power; by which the bound soul, (*badhnati*), associated with works, (*karman*), obtains liberation, and exemption from further transmigration.

Some doubt exists regarding the recorded antiquity of the Sautrantika and Vaibhashika schools, which are, however, connected, by this last tenet, with a comparatively modern modification of them; called *Karmika* and *Yatnika* systems of Nepal. The former teaches that phenomena are illusory, resulting only from an act of the sentient principle, (*manas*;) which, yet unembodied, falsely believes in their reality.* This school of Buddhism, which, in Mr. Hodgson's opinion, admits of conscious moral effort, is, he conceives, an attempt to remedy the *Swabhavi*-

* The reader is requested to compare on this subject Mr. Hodgson's quotations on the Karmika system, (Prinsep's Journal for 1836 p: 78,) and Mr. Colebrooke's observations on the philosophy of Indian sectaries, Trans. R. A. S. Vol. 1 p. 562. The following is the quotation from the *Racha Bhagavati*, given by Mr. Hodgson in proof and illustration of these opinions. "The being of all things is derived from belief, reliance, (*pratyaya*.) in this order: from false knowledge, delusive impressions; from delusive impressions, general notions; from them, particulars; from them, the six seats, (or outward objects, of the senses; from them, contact; from it, definite sensation and perception; from it, thirst or desire; from it, embryotic (physical) existence; from it, birth or actual physical existence; from it, all the distinctions of genus and species among animate things; from them, decay and death, after the manner and period peculiar to each. Such is the procession of all things into existence from *Avidya*, or delusion; and in the inverse order to that of their procession, they retrograde into non-existence. And egress and regress are both *Karmas*, wherefore this system is called Karmika. (Sakya to his disciples in the *Racha Bhagavati*)."

ka denial of personality, conscious power, and wisdom, of a first cause; which denial necessarily results from the theory of self productive energy of matter, called by the Burmese *dammata*, or fate ; * and which leaves such cause without the attributes of moral power, conscious intellectual effort, or will. It was a sequel to the declaration of such opinion, that the universe was *without a moral ruler*, and that the change of deity from a state of *nirvritti*, (quiescence,) to that of *pravritti*, (energy,) was effected *without conscious intellectual power*, or free will. If such was the state of a first cause, human nature was equally without a sense of right and wrong, and deprived of free will ; for, according to the philosophical schools of Buddhism, man became an irresponsible being, without the power or will of effecting his eternal happiness. To remove this objection, however, to the atheism of Bauddha doctrines, which had linked the physical origin of a first cause with the phenomena of human nature, it was requisite to teach that every free willed man might, through a proper cultivation of his moral sense, and the just conduct of his understanding, realize that external connexion between virtue and felicity, which none of the schools have ever attempted to deny. The *Karmika* system had asserted the superiority of man's moral sense, and the *Yatnika* was produced to advocate the doctrine of his free will ; † but both seem comparatively modern, and must have succeeded the *physical theories*, taught by the Bauddha philosophers, regarding the origin of the world and the nature of the first cause. That general law of material energy, or fate, by which one world was destroyed and another reproduced, being made applicable to the phenomena of human nature, primitive men were said to fall off from the perfection of their ancestors, to give themselves up to vice and abandon virtue, and to have their lives gradually diminished ; until by their lust, anger, and ignorance, the physical dissolution of the world takes place, and human beings perish only to re-appear under new forms. ‡

* See Sangermano, chapter II para. 1.

† The following quotation by Mr. Hodgson, on the Swabhavika doctrine, shows its tendency to refer every thing to instinct or fate ; " who sharpened the thorn ? who gave their varied forms, colors, and habits to the deer kind and to birds ? Swabhava ! It is not according to the will (ichchha) of any ; and if there be no desire or intention, there can be no intender or designer : Baud-dha Charitra," Prinsep's Journal, 1836. page 73.

‡ Compare this with the general principles of the Bauddha religion, announced in the first part of this analysis, page 88.

The opinion that these schools are of modern origin, is strengthened by the connexion of the *Karmika* system with some of the leading doctrines of the *Jaina* sectaries; who teach that the duration of punishment, or reward, is according to the powers of the mind and senses; and that, in proportion as they are held in subjection, till apathy or stoical indifference be acquired by discipline, man's happiness or misery is accordingly insured. The act of the sentient power (*manas*,) which, through ignorance (*avidya*,) maintains a belief in the reality of worldly objects, or a desire to maintain its union with them, can, by a higher intellectual effort, *extinguish such sentient desire*; and obtain *moksha*, or release from the trammels of existence, by the realization of true knowledge that all events of this world are unreal.* Contemporary with the adoption, by the *Buddhas*, of the *Karmika* doctrines, the existence of a fifth element (*akasa*), having been admitted, and *manas*, or the sentient principle, being at the same time acknowledged as the sixth, and called *vajara satwa*; these, together with the four original elements, are represented by the six *Dhyani Buddhas* of the *Aishwarika*, or theistical school; and to which, Mr. Hodgson thinks, the *Karmika* and *Yatnika* systems, on the subject of human nature, more naturally attach themselves than to the physical *Swabhavika*.†

The material *Swabhava* places nature supreme, and considers it as *Iswara*, or God; but that modification of it, which unites a transcendental omniscient principle, called *Prajna*, with the material one, typifies such as the goddess *Dharma*; who is the first member of the *Baud-*

* The reader may consult on this subject, Major Delamaine on the *Karmas* of the *Jains*; and what Mr. Colebrooke has written on the opinions of the *Buddha* sect. The latter, from *Brahmanica*! sources, is in direct accordance with Mr. Hodgson's quotation, No 4 on the *Karmika system*. These two dogmatical schools are like the exoteric, or practical course of discipline prescribed by Pythagoras, by which, the corporeal parts of man's nature being mortified and subdued, the intellectual portion of it was fitted for the contemplation of immutable truth, and union with the divine nature.

† See note 15 on the sketch of Buddhism. These dogmatical schools have a theistical tendency; and, like the *Tantrika* portion of the *Kahgyur*, almost teach the doctrine of *Maya*, or illusion, regarding the material existence of things. The reader may refer to the article of this Chapter pointing out the assimilation of doctrines taught by the last volume of the *Nepal Tantrika works*, with those of the *Saiva Hindus*.

dha triad, and is associated with the type of nature's energy, or *Buddha*, as the *second*, both of which give rise to *Sangha*, or union, as the *third*. *Dharma* is here considered the plastic, or elemental state of all things, to which is united for the production of effects in the versatile world, the second member of the *Bauddha* triad or the efficient cause of things. A yet more decidedly theistical system, the *Aishwarika*, represents intellectual essence supreme, and calls it *Adi Buddha*; who, in producing effects and changes in the material world, operates through *secondary causes, or the five elements*, of which the *Dhyani Buddhas* are types; and to which are linked individual energies, named *Bodhisattwas*, operating in conjunction with passive conceptive principles called *Saktis*. But when the deity is represented in unity, he is called *Adi Buddha*; and has, according to Mr. Hodgson's quotations five bodies, five jnyans, and five sights, and is said to be the *mukat*, (crest,) of the five Buddhas, without partner. * The latter from its representation in the *Phrabat*, or solar foot, would appear symbolical of the solar ray; and the *Dehgop* of the caves is but a *type* of the *corporeal frame* of the *five elements*, or *Dhyani Buddhas*; which are the vehicles of the subtile person, or spirit, and are generally found represented on four sides of the *Dehgopas*, † both in India and Nepal, the centre of which is supposed to be occupied by the fifth *Vairochana* or light. The *Karmika* and *Yatnika* systems of Nepal have admitted the sentient principle, *manasa*, as the sixth *Dhyani Buddha*; but all these are personifications, or *Buddhas* of celestial origin. Those of mortal birth, before enumerated, and of whom

* Prinsep's Journal, 1836, page 85, and quotation 14.

† The *Dehgop* may be considered an aggregation of the elements, effected by the presidence of spirit, and, viewed as a type of elemental creation, presents an analogy to the *mundane egg*, from which, according to the doctrines of antiquity, sprung the first born of the world. In Colonel Sykes's Notes on the religious, moral, and political state of ancient India, (Journal of the R. A. S, Vol VI, page 267.) taken chiefly from the travels of the Chinese Buddhist priest Fa Hian, the believers of this doctrine are distinguished from the primitive followers of *Sakya* or *Gautama*, and are denominated sectaries, on partisans of *Anda* (the Egg). There seems no just ground for not considering this doctrine part of original Buddhism, though it may have been rejected by *Sakya*; as it is recognized in the inscription from the *Dehgop* of the *Karli* cave, and in the inscriptions from the *Bauddha* caves of *Beira* and *Bajah*; a translation of which by me will be found in Vol. I of the Society's Journal, page 438.

Gautama is the last, having obtained plenary power, or omnipotence, *through union with divinity*, have been manifested during the different regenerations of the world: of which there are said to have been *twelve*, reckoning backwards from the present *kappo*, or creation, in which four Buddhas have already appeared and one is yet to come.

The Buddhas acknowledge three different kinds of beings, the material and generative, (*Kama*;) the material, not procreating by the usual laws, (*rupa*;) and the immaterial, (*arupa*;) who do not generate at all. The first order of beings including mankind and genii, (*Nath*, *) ascend according to their good or evil conduct, by progressive transmigrations to states of final beatitude, (*nirvana*;) where they are exempt from further change, or are doomed to pain and punishment in the mansions of the demons, or by repeated worldly transmigration into the bodies of inferior animals. The virtuous, through the merit of their actions, when finally emancipated from existence, are transported to the *bhuvanas* of *Buddha*, while the wicked are hurried to the six abodes of the *Daityas* or *Niraka*, the hell for sinners, fabled to be below the world of waters, (*Jalakand*;) which support the earth. Mankind and their protecting genii (*Nath*;) occupy the earth, and atmospheric region above it; which last is variously divided into *bhuvanas*, or mansions, called by the Ceylon scriptures the *Deva-lokas*. Above these are the three *bhuvanas* of *Mahadeva*, the six of *Vishnu*, and the eighteen of *Brahma*; which are the places of the *visible gods*, or of those celestial physical causes, or beings, which are destined, at the dissolution of worlds, to be the germs of future ones. Above all are the *Buddha bhuvanas*, of which the *Agnishta* is the highest, and the abode of *Adi Buddha*. Below it, some accounts place ten, and others thirteen *bhuvanas*, inhabited by the emancipated *Arhatas*, *Bodhisattvas*, or faithful followers of *Buddha*, who have passed into a state of *nirvana*; where from *finite* they become *infinite* beings, and the same "with divinity."

In the following account of the Bauddha system of Cosmography, Astronomy, and Astrology, we are made acquainted with the origin of the

* Col. Sykes, in his notes on the religious, moral, and, political state of ancient India, (Journal R. A. S. page 289 Vol VI) seems to think that the worship of the Hindu *Devatas* and of the *Naths*, or spirits, is a corruption of original Buddhism; but the inscriptions of Western India and the Bauddha scriptures of Nepal and Ceylon prove the contrary to be the fact, and that this worship was part of the original system.

religious principles of Buddhism ; which, connected with systems of sidereal astrology, and the worship of the planetary powers, will explain to us why these principles assimilate with tenets taught among the ancient Sabeans. " Bauddha opinions, regarding the generating influence of the atmospheric region and mansion of the planets, have been explained in the previous pages ; and, as has been shewn, this *intermediate aerial space*, peopled with genii, or the *Nath*, possesses the power of secondary causes in the business of creation. The sun, moon and stars, here illuminate the world, divide day from night, distinguish the seasons, and indicate good or evil to mankind. * This belief inculcates that *malignant beings exist inimical to man*, while other *benevolent genii* exercise their influence in protecting him, and hence originates the practice of propitiating the latter, or averting the malignancy of the former, by the astrological worship of the *Bali*, or nine planets. † Besides the seven heavenly constellations, the Bauddhas reckon the ascending nodes, *Rahu* and *Ketu*, as two others ; which are invoked, with offerings and song, in cases of sickness or important undertakings in life. We are yet little informed on the subject of their astronomical system ; but from what Sangermano mentions of the Burmese notions, it appears not materially different from that of the Jainas, excepting that the progressive falling downwards of the earth in space, and the existence of two suns, two moons, and two sets of planets, for the northern and southern quarters, form no part of Bauddha astronomical belief. It is maintained, however, that mount *Meru* exists in the middle of the earth, encircled by seven ranges of hills, between which are seven rivers, and that the sun, and moon, and planets revolve round it, in parallel orbits ; illuminating successively four great islands ; of which *Jambu-dwipa*, or India, is the southern one. The different faces of mount Meru, toward the four cardinal points, reflect the solar beams of various colours, and communicate such respectively to the islands and

* Sangermano Chap. III. para. 14.

† See Mr. Upham's account of the Bali in Ceylon, chap. x. This system of sidereal astrology, called in Ceylon *Baliah*, or the worship of the planetary powers above, is similar in all respects to the Syrian idolatry of worshipping and propitiating the *Balim*, or host of heaven, which protected and influenced mankind in health and sickness. These are the spirits of the stars, the *Ζωοφύλακες* or the sentinels of heaven ; and, in the Greek inscriptions which I copied from the gate of the great mosque at Damascus, (once a Christian church, and previously a heathen temple,) they are called " the things of eternity, and of uncontrolled power in every period of birth and generation."

inhabitants of these quarters. Neither Bauddhas nor Brahmans agree about the particular colours of the different faces; though they generally enumerate them *white* on the east, *yellow* on the south, *green* or *black* on the west, and *red* on the north. * Four kings of the *Nath* are said to preside over these quarters; with whom, as types of the elements and of colour, the *Dhyani Buddhas* seem to have an analogy; as *Akshobhya*, who occupies the eastern niche of the *Dehgop*, is described of a blue colour, and *Ratnasambhava*, on the southern, is said to be yellow or golden.† Around the summit of mount Meru is arranged the *Bhuvana* of *Indra*, or the *Tavatinsa heaven*; where flourishes the sacred tree *Kalpa-vriksha*, granting every desire. The *Lokapalas*, or eight regents of the heavenly quarters, worshipped by the Bauddhas and Jains, are with the elephant of *Indra*, inhabitants of this celestial mansion: in which the *Nath* and *spirits* of the good, not yet joined to divinity in *nirvana*, shining by their own light, need not that of the sun. ‡

The Bauddhas have a system of solar Zodiacs, analogous to ours; wherein the names of the twelve constellations manifest their connexion with the *Greek* and *Arab* schemes of the Zodiac originally derived perhaps from the *Chaldeans*. An annual movement of the sun and planets is admitted, in addition to their diurnal motion; and a gradual declination of them, *north* or *south*, producing the various seasons, is taught with the hypothesis, that there are three distinct paths in the heavens, an *inner*, *middle*, and *outer*. The inner corresponds to our summer solstice, or the tropic of Cancer; the middle to our equinox, or the equator; and the outer to our winter solstice, or the tropic of Capricorn. The inner part is said to be nearest mount *Meru*, and corresponds with the hot season; the middle to the rainy; and the outward, farthest removed, to the cold, when the sun is most distant. They are otherwise named the paths of the goat, ox, and elephant; and as the latter animal delights in cold and

* See Vishnu Purana, translated by Wilson, 4to at note 2, page 167.

† Hodgson's sketch of Buddhism, Trans. R. A. S. Vol. II page 230. and the note at page 20 of the original work.

‡ The ancients supposed human souls were invested after death with a subtle body, which was inseparable from it, until the time of its final exemption from transmigration; and this they called the *σῶμα ἀγώγιδες* or luciform body, spoken of by the New Platonists, or Christian writers of the fourth and fifth centuries, who repeated the tenets of Pythagoras and Plato. See Colebrooke's translation of the Sankhya Karika, page 136.

damp places, he appears to have been selected to distinguish the season when the sun, passing to the south, brings the termination of rain and the production of cold.

The third chapter contains translations of the cave inscriptions, which shew their connexion with the Bauddha religion, and those abstract principles of metaphysical belief that constitute the original system. The following is an extract, "The more intimately we become acquainted with the principles of the Bauddha religion, the stronger will be our conviction, that such principles have their origin in physical and metaphysical opinions, on the subject of a first cause, made applicable to explain the phenomena of the world and of human nature, and that such opinions were closely connected with the worship of the heavenly bodies, and the Sabeian idolatry. This Sabeism too, instead of being engrafted on the Bauddha system, appears to have preceded it, and to have been the source from whence it sprung. But whatever be the conclusion deduced, regarding the relative antiquity of the two systems, their present union in Siam and Tartary, has been indicated by preceding observations; and the *translated cave inscriptions* will tend to establish a fact that the *astrological belief in spirits*, which commenced with the first astronomical observations, was early connected, in the *Greek* and *Bauddha* schools of philosophy, with opinions of those who essayed to explain the origin of the world, and the nature of that cause producing its versatile effects. *Philo*, a Jewish writer of Alexandria, acquainted with the philosophical opinions of the Orientals and those of the Greeks, endeavoured, some time before the Christian era, to convince the world of the excellence and superiority of a *secret system of knowledge*, which had been long since founded in the bosom of the Jewish religion. Like the Bauddha system it taught that the ætherial region was peopled with inhabitants of an immortal nature; some of whom kindred with the earth, and addicted to its pleasures, descended to attach themselves to other spirits, for which, they had a worldly desire; but that others of them, disgusted with the vanities of life, considering the body as a prison, fled on light wings to heaven, where they passed the remainder of their existence. Others of them, yet more pure and excellent, disdaining all the temptations that earth could offer, became the ministers of the supreme God, and the agents of the great King, seeing all and understanding all. Similar opinions are maintained by the Bauddhas regarding the origin of

mankind; and Mr. Hodgson's account of this subject seems but a version of what is related in Genesis, about the association of the Nephilims with the daughters of men;* by which mankind, falling from their state of original purity, came under the dominion of the passions, and a spirit of discord, as already noticed in the general principles of this religion. The Nepal statement of the same history is that the half male and female beings, inhabiting in light and purity, the *Abhaswara Bhuvana*, and who had never yet in their minds conceived the sexual desire, or known the distinction of sex, having eaten of the earth, at the instigation of *Adi Buddha*, lost the power of flying back to their *Bhuvana*, and were obliged to remain on earth; where they lived on its fruits, and associated with each other. † This legend appears to have been taken from a confused idea of Mosaic history; and may have been introduced into the Bauddha religion when the *Indian astronomers*, with a knowledge of it, framed the system of the *Varaha Kalpa*. But on this head, and the connexion of the Bauddha religion with the worship of the sun, the translated inscriptions afford information; and are at least, the only authentic documents of antiquity, which embody primitive principles of the system beyond the chance of sectarial interpolation."

Several translations of the inscriptions from the caves of western India are subsequently given, and establish the connexion and union of Bauddha religious principles with those of the *Sabeans* and followers of *Mithra*: which union probably arose from a community of ideas that *Kraha*, the sun, or holy fire was, in his igneous essence, the same with the deity of creation, or Vulcan, the *Hæphaistos* of the Greeks, the *Opifex Mundi*, or the mundane artisan, and the same as the *Viswa Karma* of the Hindus: for according to the Saiva faith of the latter, the *Mithra* of the fire worshippers is the *Unadi*, or *Agnilinga*, the pillar of radiance of the *Linga Purana*, from which the deity first manifested himself for the creation of the world. It is true indeed that the *Atthakatha* and Bauddha annals of Ceylon declare the *adoration of the sun and fire heretical*: ‡ but while *Gautama*, or *Buddha*, may have originally confined his

* Genesis, Chapter VI.

† See Hodgson's second question in his Sketch of Buddhism T. R. A. S. Vol II page 234.

‡ Turnour's examination of the Pah Buddhistical annals, in Prinsep's Journal, Vol VI. p. 733.

religious ordinances to *Dhammo*, (morality,) and *Winayo*, (discipline), his system was early corrupted by its union with the principles and practice of the Sabeans and fire-worshippers. The monogram preceding inscription No 8 Plate I. from the caves of Junir, is of constant occurrence on the gold coinage of Kadphises, and on the Indo Scythic, or Indo Mithraic series of coins, from Kabul and the Punjab. Coin figure I, plate XXXVIII Vol IV (Prinsep's Journal page 630,) of this series is unique and of particular interest; as the king on the obverse is represented seated on a war charriot, similar to the chariot of the sun, while the inscription on the reverse, reads *Maha rajasa rajadatu Jina sidato, mitra-rato Dhimukta satha nanado*, translated, *of the great king, the source of energy, Jina the establisher, the supreme emancipated Saint of Mithra, the preserver*. The connexion of this series of coins with the Bauddha system of religion is yet further established by the Pali name of Buddha, "*Satha*," being found in Greek on the coin fig; 13 plate XXXV (Prinsep's Journal, Vol. V. p. 548) and written. ΖΑΘΟΥ

This part of the subject is further illustrated in *chapter fourth*, containing the author's observations on the symbolical marks preceding the inscriptions; and their similitude to those on coins found west of the Indus and in the Punjab. In the last or *fifth chapter* the history of Buddhism is traced and illustrated, whereby it appears that this religion arose out of the ancient Persian worship of the expanse of the firmament, under the name of *Jove*, (or the Hindu Indra,) with the deities of the sun, the moon, earth, fire, water and the winds, to which the Babylonian and Persian festival of *Sakaia* was dedicated and held sacred. But our analysis must here stop, and those requiring further information must refer to the original work; which will be soon issued from the Indian Press, to be immediately afterwards republished in England with additions and improvements.

ART. X.—Literary and Scientific Notices.

We propose to devote two or three pages of the Journal, under this head, to interesting literary dissertations, from other works, on *Philology, Palæography, Antiquities, and discoveries in Geography and Science*;

and will feel obliged to contributors or correspondents, who may kindly favour us with *short* analyses of information on such subjects.

1.—*Stewart's Lydian and Phrygian Inscriptions.*

Mr. John Robert Stewart, formerly of Bombay, and well known for his devotion to literary pursuits, who in the spring of 1837, made a tour from Smyrna to Constantinople, visiting the vicinity of Dongala, Nacoleia, now Sidy Ghazy, Dorylæum, and Brussa, has lately published the *Inscriptions*, from the ancient monuments of Lydia and Phrygia, written in the most archaic form of the Greek letters. The words are divided, by points, like those of the *Hamaïyaric Inscriptions* of Southern Arabia; and are alternately written from left to right, and from right to left. Mr. Stewart has not attempted to solve the meaning of these inscriptions; and does not appear aware that Dr. Grotfend, in revising the observations of M. M. Letronne and Saint Martin on similar inscriptions found in Lycia, has partly made out the meaning of inscription No. 1. We have only yet been able to make a hasty examination of their contents; ascertaining, however, that the language used is a mixture of *Persian* and *Phœnician* words, recording the dedication of the stone monuments, on which these inscriptions are found, to the *Artæi* or *Kabiri*, signifying the *great* and *powerful* ones, or the *Hero-gods* and idols of chief note in Phrygia and Lydia.

2.—*Antimony and Lead mines of Beluchistan.*

Major George LeMessurier, who surveyed the route, via Sohrab and Bagwana, from Kelat to Sunmianni, taking the latitudes and levels of the country, visited the antimony mines of *Seykran*, near *Bagwana*, and found the antimony in chrystals of an inch square, imbedded in black vitrified rock. The mines appear to have been extensively worked at some former period; but the want of water and fuel in the neighbourhood, must always prevent the successful working of these mines as a profitable speculation. The lead ore found was of inferior quality and small in quantity. There are also mines of inferior copper ore, near *Turkabr*, but the exact locality is kept a secret by the people of the country.

3.—*Central Africa and Navigation of the Jub river.*

The river Juba or Jub, on the Suhaili coast of South Eastern Africa, which debouches in 0. 38, south latitude, is known to be navigable in boats

for three months ; and could in all probability be made available for establishing a commercial communication with the south western provinces of Abyssinia, and its capital Shoa. Recent intelligence, from the well known missionary Dr. Krapt, seems to establish the practicability of navigating the Jub river as far as *Garague*, distant from *Shoa* little more than 70 miles ; and, as the disposition of the natives inhabiting its banks would not be inimical to further exploration of this celebrated stream, it behoves our Indian Governments, both for the interests of geography and commerce, to adopt measures for obtaining more minute and accurate information than we at present possess regarding it. An iron steamer and one of our cast off pilot brigs, or schooners, might be placed, with an efficient establishment at the disposal and under the direction of some well qualified officer of the Indian Navy, who is acquainted with this part of the coast ; and might be willing to lend both his talents and his energies for securing the success of any undertaking to navigate and explore this river ; and for establishing such a friendly intercourse with the natives of the country as might lead to permanent commercial advantages. Lieutenant W. Christopher, already favourably known by his geographical reports, and an enquiry into the present resources of Eastern Africa, is doubtless well fitted for the execution of any such expedition as now proposed for the exploration of the Jub river.

ART. XI.—*Extracts from the Proceedings of the Society.*

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held, in the Library rooms, on Thursday the 18th June 1844.

The Hon. J. H. Crawford, President, in the Chair.

Read and approved the minutes of the last meeting.

The following gentleman was proposed as a member, to be ballotted for at the next meeting of the Society :

W. Seton Brown, Esq. by G. Buist Esq. LL. D. seconded J. F. Morier, Esq.

N. A. Dalzell, Esq. proposed as a subscriber to the Library by Manockjee Cursetjee, Esq. seconded by the Secretary, was admitted agreeably to the regulations of the Society.

The following donations were laid on the table :

TO THE LIBRARY.

By Government, copy of General Circular Orders passed by the Sudder Adawlut Bombay.

TO THE MUSEUM.

By the Rev. G. Pigott, a small collection of shells from Zanzibar and Aden.

By Lieut. C. W. Montriou, I. N. skeleton, of an ant-eater, *Manis*.

This animal was given *alive* to Lieut. M. through the kindness of Mr. Ellis, C. S. Rutnagherry, but unfortunately it died after having been kept for fifteen days.

* The Secretary then presented and read a paper on the history of the Kalhora dynasty of Sindh, by Captain James McMurdo.

On the motion of Dr. Burnes K. H., seconded by the Hon. the President, the thanks of the Society were voted to the Secretary, for the interesting paper presented, and it was resolved that it be published in the forthcoming number of the Society's Journal.

The Secretary was also requested to return thanks for the various donations presented to the Society.

The meeting then adjourned to Thursday the 11th July next.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held, in the Library rooms, on Thursday the 11th July, 1844.

The Hon. J. H. Crawford, President, in the Chair.

Read and approved the minutes of last meeting. W. Seton Brown Esq. and C. Forbes Esq. C. S. having been ballotted for, were duly elected members of the Society.

Assistant Surgeon J. Jephson, was proposed as a member by J. Morier, Esq. and seconded by the Secretary, to be ballotted for at the next meeting of the Society.

The following communications were read:—

The Secretary submitted a circular, from the Sub-Committee of the Museum, suggesting that they should be empowered, in accordance with Art. III, of the rules of the Museum, for the better preservation of such Zoological specimens as are at present suspended in the gallery of the Society's rooms, to transmit them to the Zoological Society of London, where they would be better appreciated.

Resolved.—That the sense of the next meeting of the Society shall be taken on the subject of the above rule; whether the words, “and dispose of donations, “empower the curators to exchange, or give away, at their discretion, articles belonging to the Museum, without the previous sanction of a monthly meeting of the Society.

Read, a letter from M. M. Etienne d' Quatremere, dated Paris, 6th May 1844, acknowledging the receipt of the Secretary's letter, intimating his election as an Honorary Member of the Society, and conveying his thanks for the distinction thus conferred on him by the Society.

Read, a letter from Chas. C. Rafn, Secretary to the Royal Society of Northern Antiquarians, dated Copenhagen, 5th October 1843, intimating the Society had presented to the Bombay Asiatic Society, a copy of their memoirs, from 1840 to 1843; requesting, at the same time, that the other parcels enclosed in the packet, and addressed to individuals, might be transmitted accordingly.

Resolved.—That the Secretary be directed to return thanks for the donation, and that the parcels adverted to in Mr. R's letter, be duly forwarded by the Secretary.

The following donations were laid on the table:

TO THE LIBRARY.

By Government, copy of Meteorological Observations kept at Madras from the year 1822 to 1843.

By the Royal Society of Northern Antiquarians, *Memoires de la Societe Royale des Antiquaires du nord, 1840-1843. Section Asiatique.*

Specimens of Glyphography or engraved drawings from the copper surfaced blocks, by the Patentee, Mr. Palmer, were submitted to the meeting, with an intimation that Major T. B. Jervis, F. R. S. had been appointed sole agent for India and China, to receive orders from Societies and other public bodies desirous of illustrating publications, on Literature or Science, by this cheap mode of engraving.

TO THE MUSEUM.

An Hippocampus, from Viziadroog, by Lieut. C. W. Montriou, I. N.

A Turittella, by Lieut. Christopher, I. N.

A Collection of Specimens of rocks and shells, fossil and recent, from

various places in England and Ireland ; including a series of the plans of the coal measures, were presented by Professor Orlebar.

The Secretary then presented, and read the following papers to the Society.

* 1st. An account of the temple of Somnath, translated by the Secretary from the Persian of the Appendix to the *Mirat Ahmedi*, to which is added a translation, from Sanskrit into English, of an inscription at *Pattan Somnath*, relative to the restoration of the temple in Samvat. 1272. A. D. 1215, by W. H. Wathen Esq.

2nd. A discourse on the form of the earth, or the science of Geography, being the introductory chapter of the *Nazhat-al-Mushtak*, or amusement for those requiring it, in an account of great towns, countries, provinces, islands, cities, and quarters of the world, by *El-Edrisi*, translated from the Arabic by the Secretary.

Resolved, that the thanks of the Society be given for the donations and papers presented.

The meeting then adjourned to Thursday the 8th of August next.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in the Library rooms on Thursday the 8th of August, 1844.

The Hon. J. H. Crawford, President, in the Chair.

Read and approved the minutes of last meeting.

Assistant Surgeon J. Jephson, proposed as a Member, was balloted or and duly elected.

William Pole Esq. proposed as a Member, by J. Harkness Esq. seconded by A. B. Orlebar Esq., and W. Acland Esq. proposed by A. S. Le Messurier Esq. seconded by Colonel G. R. Jervis, to be balloted for at the next meeting of the Society.

The following motion, of which due notice was given, was then submitted.

“That the sense of the next meeting of the Society be taken, whether the words, “ and dispose of donations,” as specified in ART. III. of the rules of the Museum, empower the curators to exchange, or give away at their discretion, articles belonging to the Museum, without the previous sanction of a monthly meeting of the Society.”

It was thereon resolved—

That such transfer shall be left at the discretion of the curators, and

recorded in the proceedings of the succeeding monthly meeting.

The following donations were laid on the table—

TO THE LIBRARY.

From the Government of Fort Saint George, through the Government of Bombay, the 6th volume of the Madras Astronomical Observations recently published at that Presidency.

From the Government of Bombay ; No. VI. Transactions of the Medical and Physical Society of Bombay.

From J. J. Waterston Esq. a few volumes of the Civil Engineer's and Architect's Journal's.

From Captain Postans, through Messrs. Frith and Co. Copy of a lithographed drawing of the celebrated temple of Somnath.

TO THE MUSEUM.

The capital of a column, and two broken female images, from Zenobia on the Euphrates, by Lieut. C. D. Campbell, I. N. The capital is from a double line of columns which formed the sides of a road leading from gateway to gateway in a fortified enclosure. The figures were corner supports in a square stone edifice with vaulted roofs. The place has been termed "Zenobia" by the expedition, under the supposition that it was built by the Queen of Palmyra; also, a large collection of shells, and some Echindæ from Aden, by Captain S. Young I. N. were presented through A. B. Orlebar Esq.

The Secretary then read the following communications to the meeting:

1st. A letter, from the Secretary to Government in the General Department, dated the 2nd instant, accompanying copy of a dispatch (No. 23, dated 31st May last,) from the Hon. the Court of Directors, enclosed with a communication from the Royal Asiatic Society of Great Britain and Ireland, relative to the preservation of the "Cave temples of India," and the desired execution of correct drawings of the fresco paintings found therein. In this letter the Hon. the Governor in Council expressed a hope that the Society would co-operate with Government in carrying out the objects of the Hon. Court and the Parent Society.

It was thereon resolved that the Secretary be instructed to write, in reply, that the Society is ready to co-operate with Government in any

way it may point out for obtaining copies of the drawings specified in the letter of the Hon. the Court of Directors, or in carrying out a plan for preserving from decay, the sculptures and inscriptions in the Caves of Western India. The Secretary, at the same time, noticed that the lithography of the fresco drawings, copied for Mr. Wathen, from the Caves of Ajanta, was now completed, along with copies of the inscriptions from Kanari, Karli, Beira, Bajab, Mahar, Junir, Ajanta, and Nassick, which he had translated, and expected to publish about November next.

* 2nd. Two ancient inscriptions, on copper, in the Cave character, translated into English by Ball Gungadhur Shastree Esq. and accompanied by a letter from him relative to the probable dates of the grants. The first of these, now in possession of the Secretary, which, with the Devanagri transcript, had been handed over to B. Gungadhur Shastree Esq. is a grant of the village Aland on the Bhima, to the sons of Lakshmana Swami, of the family of Kanshika, by *Vishnuarddhana*, son of Kirti Varma, son of Rana Vikrama, of the Chalukya family, claiming descent from the lunar race, and formerly ruling over the Kuntala Desha, of which Kaliani, in the Dekhan, was the capital. It is dated in the eighth year of the King; and, as *Vishnuarddhana* is herein called the nephew of *Palakeshi Vallabha*, whose date is well known from many grants, the present one cannot be later than A. D. 733, and may be as early as the beginning of the sixth century.

The original of the other grant, also in the Cave character, and in the possession of Narsoo Bhalu of Nandgoan, in the Northern Konkan, belongs to the same family of the Chalukyas; being in the name of Kirti Varma Raja, son of *Palakeshi Vallabha*, who conquered the kingdoms of Chera, Chola, and Pandya, or Mysore, Tanjore, and Madura. It is without date, but the land was granted for the support of the worshippers of *Kapiliswara*, or *Siva*, as worshipped by the Kapilas, a sect allied to the Bauddhas, and who, as devotees of the skull necklace, are represented, as associated with them, by the sculptures of the caves of Ellora.

The Secretary was directed to return thanks to the respective donors, and the meeting adjourned to Thursday the 12th of September next.

At a monthly meeting of the Bombay Branch of the Royal Asiatic society, held in the Library rooms on Thursday the 12th September 1844.

James Burnes, K. H. F. R. S. Vice President, in the Chair.

Read and approved the minutes of last meeting.

Professor Wm. Pole F. R. A. S. and W. Acland Esq. proposed as Members, were ballotted for and duly elected.

The following papers were laid before the meeting by Dr. Buist :

* 1st A paper on the Runic monuments found in Scotland and Ireland, and not known to exist in any other part of the world. These consist, for the most part, of magnificently sculptured crosses, ornamented with representations of hunting, and of battle scenes, of religious processions, &c. Many of the animals represented on them, such as elephants, lions, monkeys &c. are obviously Oriental. Some of the figures are apparently hieroglyphical, though their meaning is unknown. The attire and occupations of the individuals represented throw a considerable light on the manners of a period to which written history does not extend. The object of laying the paper before the Society was to endeavour to elicit information on the subject, by inducing a search after analogous relics, if any such exist in India.

2nd A paper on the use of Mr. Adie's Barometer, with some suggestions for an improvement in its structure, so as to render it less liable to accidents in tropical climates : with suggestions, for the improvement of the marine Barometer, so as to increase the delicacy of its readings and adapt it either for sea or land purposes ; and a notice of an improvement, suggested by Dr. Glen, on the syphon Barometer, so as to adjust the scale at once, and get rid of double readings.

The thanks of the Society were voted to Dr. Buist for the papers ; and it was resolved—that they be published in an early number of the Society's Journal, with such illustrations as may be found practicable.

The following donations were laid on the table :

TO THE LIBRARY.

1. By Government two lithographed copies of the Mahratta translation of the Mithakshara and Dhyaya Bhag.
2. From Mr. Shirra, through Messrs. Forbes and Co. Copy of the Maulmein Almanac and Directory, and general commercial trade list, for 1844, accompanied by a map of Maulmein and its environs.
3. By the Bombay Geographical Society, its Transactions from September 1841, to May 1844.
4. By C. J. Erskine Esq. through the Rev. J. M. Mitchell, the follow-

ing Sanskrit M. S. S. Linga Purana, Garuda Purana, Devi Mahatmya from the Markandeya Purana, Parashara Upa-Purana.

TO THE MUSEUM.

1. By Major General Sir H. Pottinger, Bart., G. C. B. A number of very curious Chinese figures, carved in wood, representing the imaginary rewards and punishments of a future state. The collection consists of exact copies of the originals; which were formed of clay, and taken, during the campaign of 1841-42, from a Buddhist temple at Yanyaon, a city in the province of Cheakiang, in China.
 2. By Major General Sir H. Pottinger, Bart., G. C. B. A tablet of wood richly carved, and ornamented, in honor of the Emperor of China, taken from a Jos house near the city of Chinkeangfoo. The following is a translation of the inscription it bears:
“A thousand times ten thousand years ! may the Emperor live ten thousand times ten thousand years”
 3. By E. E. Elliott Esq. A small collection of shells, and a fine specimen of dog-tooth spar.
 4. By C. B. Skinner Esq. Twelve bottles of snakes, fishes, insects, &c.
 5. By Captain J. Young I. N. Specimens of flying fish from the Arabian Coast.
 6. By Dr. Leith ; Specimens of Apophyllite &c. from the Deccan.
- The best thanks of the Society were voted to the respective donors.
The meeting then adjourned to Thursday the 10th October next.

JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

v, 2 no. 11
JULY, 1847.

ART. 1.—*Notes on the Mahrah Tribe of Southern Arabia, with a Vocabulary of their language, to which are appended additional Observations on the Gara Tribe.* By Assistant Surgeon H. J. CARTER, Bombay Establishment.

In presenting to the Society this vocabulary of the Mahrah dialect, I regret that I have so little information to add to it, concerning the manners and habits of the people by whom it is spoken.

The Mahrah tribe (مهرة), descended from the ancient Hamyari of Hadramaut, occupy an extent of country exceeding that of any other tribe in the southeastern part of Arabia. The limits of their coast are generally allowed to be the opening of the great Wadi Masilah, on the S. W, in $51^{\circ}13'$ E. Long. and the town of Damköt (دمقوت), in the bay of 'Al Kamar, on the N. E, in $52^{\circ}47'$ E. Long., giving them a coast-line of about 135 miles; thus, while we have it in our power accurately to determine their maritime boundary, we know little or nothing of the extent of their country inland, though we may justly infer that the tribe is spread over an immense area, for, if we talk of entering Hadramaut by Makalla, the people of that place tell us we shall be assailed by the

Mahrah tribes on our way, and if we ask the inhabitants of Marbât, three hundred and sixty miles north-east of Makalla, what inland tribe comes next to the Beni Gara, their answer again is, the "Mahrah," while the Mahrahs themselves affirm that the divisions of their tribe extend to the confines of Hadramaut.

Like the other great tribes, they have their divisions, their subdivisions, and their families or *bâits* (بیت); but being so numerous and spread over such a vast extent of country, they are as much at war with each other, as if each division and subdivision were an independent tribe of itself.

In stature the Mahrahs are generally undersized, and when compared with their eastern neighbours, the Beni Gara, may almost be considered diminutive. In speaking however of their characteristic features, it should be understood that my observations are entirely confined to those who inhabit the southeastern borders of their territory. They are by no means a handsome race, for their features are for the most part short and irregular, their eyes small, sunken, black, and piercing, with a cunning and very frequently a sinister expression of countenance. Their dress is the same as that of the Garas, and likewise their arms, excepting that the double pointed stick is not commonly used among them. In their mode of salutation they touch each other's fingers in the manner of the Garas, but instead of kissing them afterwards, they bring their noses in contact with each other, side by side, and at the same time gently, though audibly, inhale the air through their nostrils. Their mode of subsistence follows their position; those of the interior live principally on milk and flesh, with now and then dates and a little *durah*, if they can afford to purchase it. The latter is ground in a mill called a *matahanét* (مطحنت), which consists of a flat oblong slab of stone, and a kind of rolling pin, moved backwards and forwards by a single person.—While the Bedwins of the interior live principally on milk and flesh, those on the coast seldom get any thing more than fish and dates. The fish they take, either in nets, or with a hook and line; but as few can afford to purchase either boat, or nets, and as they are not in the habit of using the inflated skin or *kirbah* (قربة), mentioned by Ptolemy, and so common on the coast to the northeastward of the bay of Kuria Muria, they drop their lines from the projecting shelves of cliffs, which overhang the sea.

have seen them with their shields and swords crawling down the precipitous side of *Ras Fartak*, which looks towards the bay of Al Kamar, where the cliffs in many parts, present a scarp 1,900 feet high; and our Pilot, who was from that neighbourhood, assured me that annually, one out of seven, or certainly one out of ten, perished from a false step, while prosecuting this perilous descent to obtain their daily food. Yet such is the force of habit and example handed-down from their forefathers, and also that of necessity, (for the extreme poverty of the different tribes admits of no pretext, under that of war, for any encroachment made by their neighbours on their several territories, in quest of food for man or beast,) that the *Bait Saloom* (سلوam), who dwell on the barren ridge of *Ras Fartak*, have no other alternative than to descend daily for this miserable support, or perish above from a want of nourishment.

The Mahrah fishermen have also another contrivance for taking large sharks, and a species of ray exceeding sometimes fourteen feet in breadth, which frequents this coast. This consists in "rigging out a *darak*" (to use a nautical phrase) from the side of a cliff, with a pulley in the end of it, over which the line plays; in this way having chosen a favorable spot for fishing, they raise up sharks from eight to ten feet long; and having divested them of their fins, salt and dry the flesh for food, and sell the former to the Nakhudas of Bagalos, who trading along this coast purchase them for the China market. I may here mention that not only among the Mahrahs, but with all the inhabitants of the southeastern coast of Arabia, *Lahm* (لحم), or the dried flesh of sharks, is the staple article of food and commerce.

The Mahrahs are miserably poor, and their plains, mountains, and valleys, with the exception of the highland of *Hattob* (حطوب) close to Damköt, are rocky, sandy, and almost barren. They call the distant land lying due north of their coast, the *Arz-al-ahkaf** (ارض ال احقاف).

Religion they have little, or none. I was informed by our Pilot that it was only here and there on the coast that you met with a man, who could say his prayers, while the Bedwins of the interior were wholly devoid of religion, having no idea of God or devil, of heaven or of hell.

The Mahrah dialect, as spoken by the Mahrahs themselves, is the softest

* Meaning the region of sand-heaps.—*Editor.*

and sweetest language I have ever heard; indeed, they appear to be so sensible of this, that they liken their *kalam d' Mhari* (كلام ذمھري) as they term it, to the conversation of birds (مثل كلام الطير). In my vocabulary I shall refrain from making any philological observations on it, preferring to leave this part open to the learned Secretary, whose extensive knowledge of the subject is so unquestionable that I am sure nothing will escape his notice, which is deserving of interesting or useful remark. All therefore that remains for me to do, is merely to offer the few preliminary observations which are necessary to convey to the reader, an idea of the sounds of certain letters, and the pronunciation of the words in which they are introduced, leaving the *Arabic* spelling of the words exactly as they were written for me, by Mohammed bin Hamed *Mahri*, Pilot on board the H. C. Surveying Vessel *Palinurus*, in the Bay of Al Kassar, and resident of the village of *Ahsoel* (احسويل), eight miles west of *Ras Fartak*.

ACCENTS.

Long accent (-), *short accent* (·), *diphthong* (°).

RENDERING OF VOWEL SOUND.*

| | | | | | | | | | |
|-----------|----|------------|----|-------------|-----------|----|-----------|----|-------------|
| <i>a</i> | as | · <i>u</i> | in | <i>but</i> | <i>oo</i> | as | <i>oo</i> | in | <i>boot</i> |
| <i>ee</i> | as | <i>ee</i> | in | <i>see</i> | <i>ē</i> | as | <i>ay</i> | in | <i>say</i> |
| <i>i</i> | as | <i>i</i> | in | <i>thin</i> | <i>é</i> | as | <i>ey</i> | in | <i>they</i> |
| <i>o</i> | as | <i>o</i> | in | <i>note</i> | <i>ao</i> | as | <i>ow</i> | in | <i>how</i> |

¹, for the most part has not a broad sound; thus, *مهرا* with the Mahrahs has almost the same sound as that of the proper name Mary.

ج, is generally pronounced soft; I may here remark that *مهرا* forms as good a word as can be adduced for the purpose of giving the different pro-

* The system of orthography, followed by the author in his vocabulary of the Mahrah dialect, though not that usually followed in the Journal and other oriental publications, has been left unaltered except in the body of the notes, where it has been changed for that more commonly adopted by Orientalists.—*Editor.*

nunciations of this consonant along the southeastern coast of Arabia. Thus, it is pronounced as in *Hebrew*, by the inhabitants south of Maskat, and about Ras Al Had; *hard*, by the people of Dofar, and the inhabitants of the coast between Makalla and Aden; and *soft*, by the Mahrahs. By the first, it is called *Sair*; by the second, *Saghar*; and by the Mahrahs, *Sajar* or rather *Zājar*. Vide ص.*

ش, has a very peculiar sound in the Mahrah dialect; it is formed by placing the tip of the tongue against the anterior part of the palate, and allowing the air to pass out of the mouth on one side or the other of it, in the manner of a lisp, following it with the sound of the letter *l*, as in شير *fire* pronounced *shleeote*.

ص, has the softer sound of the letter *z*, as in صا *ma* which is pronounced *Zājar*.

ع and غ, have their peculiar sounds, and sometimes the latter has the sound of *q* in *qui* (F) as in غي *man* pronounced *qaij*.

In the *English* spelling, however, of the Mahari words, I have endeavoured to give the pronunciation of the Mahari who dictated them to me, without much reference to the literal rendering of the Arabic character. This, which would be disadvantageous if the *Arabic* spelling was perfect, becomes the reverse in the present instance, where the pronunciation will frequently point out the inaccuracies of the Mahari orthography.

"Notes on the Gara Tribe;" continued from p. 201 *Journal* No. ix. p. 201. 1845.

Since my notes of last year were presented to the Society, I have again had an opportunity of mixing with the Gara tribe; which, while it afforded me the means of collecting a little more of their history, has enabled me to define more correctly the coast-limits of the district they occupy.

Formerly, these were stated to be the town of *Marbat* on the northeast,

* In these observations the Arabic orthography of the names of three different portions of the south eastern Arabian Coast appears to be confounded: namely the tract of country called after the now desolate fort of *Al-Shihir* (الشحر) in lat; 14 38 30 N. longitude 49 27 35; the Cape of *Shajr*, شجر between Ras Fartak and Ras Marbat; and the town and district of *Sohar*, or *Zohar*, صحر on the coast of Oman.—Editor.

and *Ras Al Sajar* on the southwest, but, since I gathered this information from the inhabitants of Dofar, an intercourse with the Mahrahs and Garas in the bay of Al Kamar, during its survey, has enabled me to fix with more accuracy the exact line or neutral ground of demarcation between the two tribes on the west; while as regards the east, I have elicited from different sources the fact, that the Beni Gara are the sole inhabitants of the Sabhan mountains, which extend from Marbat to Hasek. Hence it will appear, that, instead of *Marbat* and *Ras Al Sajar* being the true limits of their coast, the village of *Hasek* will be the northeast, and, as ascertained from the united testimony of the Mahrahs and Garas in the bay of Al Kamar, *Ras Tharbat Ale* ظربت علي will be the southeast termination of their maritime boundary. Between *Ras Tharbat Ale* and *Damkot*, there are as many Mahrahs as Garas, therefore this interval may be considered neutral ground.

Respecting the Tribes, whose several districts come next the confines of the mountainous tract inhabited by the Beni Gara, I have not been able to obtain much satisfactory information. The Mahrahs come next to them in the bay of Al Kamar, but at Hasek there are remnants of several tribes, the principal of which are the Gara قرا, Mahra مہرا, Afar عفار, Hassarit حسريت, and the Baramah برمعه; while all the towns in Dofar, with the exception of Tagah and Marbat, are inhabited by the Al Kathiri الكثيري, who originally came from Hadramaut, and are always at war with the Beni Gara. Next the Garas, inland, I am told, are the *Thoar* طور, a large branch of the Mahrah tribe, the Afar, also a large tribe, and the Al Kathiri; these inhabit the table land called Nejd, or Nejdî نجد ونجدى, on which the frankincense tree grows, two days inland from the shore.

The Mahrahs and Garas affirm that they are descended from the ancient Hamyari, and that the Afar and Al Kathiri are descended from the Ghafiri غافري

The following are some of the principal branches of the Gara tribe.

BENI GARA OR HAKLI.

بنی قرا حاکلی

| | |
|----------------------------------|-----------------------|
| Bin Kahtan..... بن قحطن | Báit Kashob..... كشوب |
| Báit Mashanee..... ما شني | —Jabob..... جبوب |
| —Ayesa (<i>Esau</i>)..... عيسا | —Ghajod..... قجاود |
| —Makheir..... مخير | —Said..... سعيد |
| —Tabok..... طبوك | —Témin..... تيمين |

Several of the Garas assured me that Gara and Koreish were synonymous,* and that the latter was their ancient appellation. But to ascertain this more satisfactorily, I took the opportunity of asking the chief Shaikh of the Garas, in the presence of an influential Saiad, with whom I was then staying, if it were from his tribe that the prophet Mohammed sprung, and what was the ancient name of his tribe? To the former he replied in the affirmative, to the latter, "the Koreish." In both instances he was contradicted by the Saiad. By another person, however, who was called upon in the presence of a large assembly, as an authority in matters of history, to give me some information about the neighbouring tribes, I was told that the Garas and the Koreish were *not* the same people. Here the question rests, so far as I had an opportunity of determining it, but, as the matter is not altogether devoid of interest, I relate the observations for whatever, in the hands of others, they may prove worth.

Besides Gara, they are also called Haklee, and at the present time the two terms are used synonymously, though the first is by far the most general appellative.

The *Kahtan* family or branch, is considered the head or root of the Garas, and the Shaikh of this family, the Shaikh of the Garas; Salim bin Thoorée bin Kahtan, is the name of the present Shaikh; it was this man, who in a *blood feud*, murdered Saiad Mohammed bin Ageyl, the late governor of Dofar. Standing erect, he is full six feet high, finely proportioned, with most manly and handsome features, combining, with a generous expression of countenance, all the gentleness and determination, that could be sought for in the most chivalrous character. Though the murderer of the last governor of Dofar, (under whose sage but severe discipline that district was restored from the wretchedness of the worst state of anarchy, to a condition of ease and prosperity, and whose loss, by all the tribes inhabiting Dofar and its neighbourhood, has not failed for the last fourteen years, to prove a source of the most bitter lamentation) this man, (ignorant of the crime he had committed, in the eyes of an Englishman, and satisfied of the rectitude of his conduct as a Gara Chief,) calmly asked, why the English, knowing the extreme fertility of the district of Dofar, and the wretched state of the inhabitants for want of a ruler, did not send some one to take the country, and give them the benefit of our good Government. The

* The Koreish being the tribe from which the Prophet Mohammed derived, his origin, is it not probable, that if there be any truth in this assertion, the tribe of Garas derive their appellation from having early possessed, a knowledge of letters, as the word *Kara* قرأ literally signifies one who practises reading?—*Editor*.

Kahtan family are regarded as the great fighting men of the *Gara* tribe, and it is said that five *Kahtans* are enough to put to flight the whole of the *Beni Gara*.

To shew the faithful manner in which the duties of *Rabeea* ربيع, or *Protector*, are discharged in this tribe; how a man having a *blood feud* with another party may enter with security the territory of his adversaries; and under what circumstances a *blood feud* may be established, I may mention the following act of one of the *Kahtan* family, who accompanied a friend as *Rabeea*, from the mountains behind *Dofar* to the town of *Silalah*. When arrived in *Silalah*, two of the *Rabeea's* cousins approached the man whom he was protecting, and assailed him on account of a *blood feud*, which formerly existed between them. The *Rabeea*, (now the decrepit figure, of a once tall and powerful man, and who was sitting by me, when the *Saiad*, with whom I was staying, related the story,) faithful to his pledge, and having no alternative but to slay his cousins, did so, with as many blows of his sword, while the friend whom he protected fled back to the hills, and the *Rabeea* claimed the *Saiad's* protection until a large party arrived from the mountains to guard, and conduct him back to his own clan. In this act, we observe the binding nature of the pledge,—the *Rabeea* opening a *blood feud* with another party, his own relations for the sake of faithfully discharging the duties of the office he had undertaken. Such instances of fidelity are by no means uncommon among the wild and ignorant *Bedwins*. The *blood feud*, as a matter of course, is greatly dreaded by all, for it not only immediately excites families to mortal combat, but if remaining unsettled, which is most commonly the case, entails all the misery and bloodshed connected with it on the next generation, by whom, if not satisfactorily decided, it must descend to the third and fourth, and so on, until it is either amicably arranged or entirely forgotten. Thus, with the two men murdered by the *Rabeea* above mentioned, who belonged to a distant branch of his own family, their sons are still boys, but when they arrive at manhood, they will be expected by their nearest relations to take up the *blood feud*, occasioned by the murder of their fathers, and will either kill the old *Rabeea*, or if he be dead, two of his branch of the family. A *blood feud*, such as this is, arising between two branches of the same family, is considered the worst; it is blood against blood. In the assault of the young men, when they are grown up, on the *Rabeea's* family, they themselves may be killed, or instead of only killing two of the *Rabeea's* family, they may mortally wound three; in the first instance, instead of a *blood feud*, on account of two, there will be one of four against the *Rabeea's* family, while in the second instance, a *blood feud* will still exist between the families on account of the murder of a third person,—one more than was required from the *Rabeea's* side.

The difficulties which attend a *blood feud* may be endless, and the conse-

quences are disastrous, and although they tend greatly to restrain the Bedwin from committing bloodshed, and contribute much to protect his life, yet they are too often disregarded by this "*wild man*," who under the influence of passion will frequently commit murder on the most trivial occasion.

Note. For Gharah غارة read Gara قرا in my "*Notes on the Gharah Tribe*" published in No. ix of this Journal. It is also written قره H. J. C.

VOCABULARY OF THE MAHRAH DIALECT.

| English | Arabic | Maharee | Pron: of Maharee. |
|---------------------|---------------|-------------------|-------------------|
| Age..... | عمر..... | عامر..... | āmar |
| Angry..... | غضبان..... | مغتيظ..... | maghateeth |
| Arms Pl. (body).... | الاذرع..... | حيدوتن..... | hēidotan |
| Army..... | عسكر..... | عسكر..... | askēr |
| Ant..... | نملة..... | نوميل..... | nomeel |
| Antimony..... | كحل ائمد..... | كا حل..... | kahil |
| Appetite..... | توق..... | توك..... | tōq |
| Anchor..... | ..... | بوهرت..... | boharat |
| Ashes..... | رما د..... | رميد..... | rameet |
| Arrow..... | سهوم..... | سهوم..... | sahom |
| As before..... | كما اول..... | هاش هو الا..... | hash hawalee |
| Above..... | فوق..... | حقلا..... | haghla |
| Afterwards..... | بعد..... | مغورا..... | maghora |
| Always..... | د ايماء..... | دويم ذ اوقات..... | doem da aukat |

B.

| | | | |
|--------------|------------|--------------|--------------|
| Bad..... | شرير..... | يغمو م..... | yaghmom |
| Bravery..... | بلاطة..... | حروبي..... | harobee |
| Back..... | ظهر..... | ظهرصوتن..... | dhara mōthan |
| Bone..... | عظم..... | عظظ..... | athēth |
| Blood..... | دم..... | دم..... | doom |
| Belly..... | بطن..... | جوف..... | djof |
| Brother..... | اخ..... | فاى..... | ghak |
| Blind..... | اعمى..... | عوريت..... | awareet |

| | | | |
|---------------------|------------|---------------|-------------------|
| Body..... | جسد | جساد | jasād |
| Beard..... | لحية | الحيت | al-hēt |
| Bowels..... | مصارين | مشفين | mosghén |
| Bread..... | خبز | خابز | khābs |
| Butter..... | زبد | خزرات | khazarét |
| Black..... | اسود | حور | haowar |
| Blue..... | كحلي | حور | haowar |
| Bracelet..... | ماورا قرطه | مناكت | matakēt |
| Book..... | كتاب | كتوب | katob |
| Bed (of sleep)..... | سرير | جودري (ذاشنت) | jodaree d'ashan't |
| Battle (land)..... | قتال | غورت | ghorāt |
| Barren..... | مصحال | هيو | h'coor |
| Brook..... | جدول | هذ هبوت ذنهر | hazabūt d'nahr |
| Branch..... | عصن | رقات | ratāt |
| Bark..... | قشرا لشجرة | تشيروت | kasheeroot |
| Blade of grass..... | السرخ | رهوت | rahoot |
| Brass..... | نحاس | نحوس | nahos |
| Bite..... | عصه | صوب | sob |
| Bitterness..... | مرارة | مرير | mareer |
| Blow..... | لكمة | الكما | alkamēt |
| Bird..... | طير | عقاب | agāb |
| Bug..... | كثون | كتون | kāton |
| Bridle..... | لجام | غيناچ | ghāianej |
| Bull..... | ثور | ثور | thor |
| Bow..... | قوس | مندافاك | mandofēt |
| Boat..... | سنبوق | سنبوق | sambook |
| Bee (honey)..... | نحل | هانوبه | hanobēt |
| Beak (of bird)..... | منقار | اخوه | akhoh |
| Behind..... | خلف ورا | منغيرا | manghéira |
| Below..... | تحت | مصا | amsa |
| Bad..... | بطل | يغموم | yaghmom |
| Balance..... | ميزان | میزون | meezon |
| Brain..... | دماغ | دماغ | damagh |

| | | | |
|-------------|-----------|-----------|------|
| Bagalo..... | بغلة..... | سایت..... | sâit |
| Bottle..... | لوغت..... | logat | |
| Buoy..... | کوي..... | koeë | |

C.

| | | | |
|-------------------------|------------------|------------------|-------------------|
| Cow..... | بقرة..... | بقريت..... | bakarét |
| Cash..... | فلوس..... | درهم..... | dareeham |
| Cold..... | برد..... | قا صم..... | kasim |
| Children..... | اولاد..... | قلیان..... | gallean |
| Cheek..... | حدود..... | ظجمتک..... | thajamatak |
| Chin..... | دقن..... | ملحوت..... | malhôt |
| Coffee..... | قهوت..... | قهوات..... | kâwét |
| Comb..... | مشط..... | مشريق..... | mashareek |
| City..... | مدينة..... | رحبات..... | rahabêt |
| Coffin..... | صندوق البيت..... | منعش ذامیوت..... | manhosh da meeoot |
| Conqueror..... | فالب..... | خزة..... | khâzzâ |
| Conquered..... | مغوب..... | فوصل..... | fôsal |
| Cultivated..... | مفلوح..... | قا جيد..... | kajoeđ |
| Cloud..... | سحاب..... | عفور..... | afoor |
| Clouded..... | ..... | عفورماکن..... | afôr maikan |
| Camel..... | جمل..... | هيببت..... | hêibet |
| Cat..... | قطه..... | اسنورت..... | assanôrt |
| Cock..... | ديک..... | ديک..... | deek |
| Copper..... | غاس..... | صافر..... | sâfar |
| Cotton..... | قطن..... | غوزل..... | ghozâl |
| Cocoanut tree..... | ..... | ميدا..... | mêda |
| Crooked..... | حنو..... | عواج..... | aowaij |
| Clear (op. foul)..... | را يقة..... | سوال..... | soal |
| Calm a (sea)..... | ..... | شوال..... | shoâl |
| Clothes..... | ..... | خلواق..... | khaloq |
| Corn..... | قمح..... | عمال..... | amêl |
| Colours (to hoist)..... | بيرق..... | غلي بيق..... | ghala bériq |
| Creeper (anchor)..... | بروصي..... | barosee | |
| Crying..... | تبیک..... | tabeck | |

| | | |
|--------------------|-------------|----------|
| Cable | مسبوا..... | masabooa |
| Colt | عفو..... | habarēt |
| Crab | حيشي..... | héishee |
| Chain | سلسلات..... | salsalét |
| Cover (book) | قرطوس..... | gartos |

D.

| | | | |
|-----------------------|------------|--------------------|---------------------|
| Dry | يابس..... | قوشا..... | kōshā |
| Dog | كلب..... | ..... | id..... |
| Death | موت..... | ميوت..... | meeoot |
| Dumb | اعرج..... | عجم..... | ajam |
| Deaf | طرشه..... | سقيت..... | sakeet |
| Day | يوم..... | نهوور..... | nahoor |
| Dawn | فجر..... | فاجر..... | fējar |
| Defeat | هزيمة..... | هبوذ نرعم..... | habo da faram |
| Deep | عميق..... | غازر..... | ghazar |
| Dark | مظلم..... | كتوي..... | katéwee |
| Donkey | حمار..... | حير..... | héir |
| Duck | وردك..... | مقوقوات..... | makokwat |
| Dove | حمامة..... | عيثار..... | áithar |
| Date | تمر..... | تومر..... | tōmar |
| Disease | مرض..... | مريض حمول الح..... | mareedth hamol aloo |
| Dokhan | ذحن..... | داخن..... | dākhan |
| Dthurah (grain) | ذرة..... | ذريت..... | dtharét |
| Date-tree ..... | ..... | ناخل..... | nākhil |
| Dolphin ..... | ..... | صعوبون..... | saobōn |

E.

| | | | |
|-------------|-------------|-------------|-----------|
| Eight | ثمانية..... | ثمانيت..... | thimaneet |
| Ears | اذن..... | حيذان..... | héidthén |
| Eye | عين..... | ..... | id..... |
| East | مشرق..... | شرقوت..... | sharkoot |
| Earth | ارض..... | ..... | id |

| | | | |
|------------------------|------------------|--------------------|----------------------|
| Eyebrow..... | حواجب..... | احچور..... | ahajūr |
| Eyelid..... | شقوق العيون..... | شقرين العينتك..... | shakareen al áientak |
| Empty..... | فادغ..... | خلي..... | khalee |
| Eggs..... | بيض..... | ibd..... | |
| Earning..... | خلق..... | خلق..... | hélëk |
| Evidence..... | برهان..... | برهون..... | barhon |
| Enemy..... | عدو..... | عدوناغل..... | ādo-naghal |
| Eagle..... | نسر..... | نوهر..... | nohar |
| Ear (of corn)..... | سنبلات..... | سبلات..... | sibalat |
| Entertainment..... | دفنة..... | الجف ذاقوبر..... | alegaf d'gobar |
| Easy..... | سهلة..... | سهيل..... | saheel |
| Ever..... | ابدن..... | الوم..... | alōm |
| East-wind (N. E?)..... | | هازياب..... | hazeeb |
| Edge sharp..... | | حدمكن..... | hud mēkān |

F.

| | | | |
|-------------------|------------|------------------|-----------------|
| Fat..... | سمين..... | صالح مالحات..... | salah or salhét |
| Fishing line..... | تين..... | غلف..... | ghalf |
| Fidelity..... | اصمان..... | مشرة..... | misharee |
| Face..... | وجه..... | واجه..... | wojah |
| Fire..... | نار..... | شيوط..... | shleeōt |
| Father..... | اب..... | حبيب..... | héb |
| Flesh..... | لحم..... | تيوي..... | tee wee |
| Frankincense..... | لبان..... | شعز..... | sheeaz |
| Fingers..... | اصبع..... | شوبع..... | shōba |
| Foot..... | قدم..... | مدحاك..... | madhakak |
| Four..... | اربعة..... | ربوت..... | robōt |
| Five..... | خمسة..... | خموة..... | khomo |
| Full..... | فملو..... | ملون..... | malon |
| Fish..... | سمك..... | صيد..... | séit |
| Fort..... | طابية..... | قلعت..... | kālāt |
| Fertile..... | مخصبه..... | قاجيت..... | kājeet |
| Feathers..... | ريش..... | قطافوف..... | katafof |

| | | | |
|---------------------------------|-------|-------------|-------------|
| Frog..... | صعدمة | ظفرا ت | dthafzāt |
| Fins..... | حناح | مفوت | alfōt |
| Fly..... | ذباة | هذبيت | hadthabét |
| Flea..... | برعوث | حشميت | hashmét |
| Flower..... | ذهر | ذيري | athéree |
| Famine..... | تخط | ذبون | zabōn |
| Fatigue..... | عنا | تبك | tābak |
| Friendship..... | صحبة | صديق | sadeeq |
| Flint (for striking light)..... | صوان | عيبال | aibal |
| Fever (ague)..... | حمة | جولو | joloo |
| Forehead..... | حبهة | فيست | feesit |
| Foul (op. to clear)..... | | كدار | kadér |
| Fox..... | ثعلب | ميتال | āthal |
| Fish-hook..... | ميدار | هانوبات | |
| Far..... | بعيد | راحق | rēhak |
| Flock of sheep (whose?)..... | | هارون المون | hāron almōn |
| Flying fish..... | | فريفرت | féréefart |
| Fear..... | خوف | فزك | fazak |

G.

| | | | |
|-------------------|--------------|--------------|------------------|
| Goat..... | معذا | حوز | hoz |
| Goat, she..... | معذت | حوز بيس شخوف | hoz bees shakhof |
| Green..... | اخضور | اهطور | ahdthoor |
| Grand-father..... | جد حبذا حيبك | ديدك | dēidak |
| Grand-mother..... | ست | هامان هماكى | hamēdthmēk |
| Gold..... | ذهب | ذهيب | dtheeb |
| Gate or door..... | باب | بوب ذمدينث | bob d'madeent |
| Gun (cannon).... | مدفع | | Id..... |
| Gunpowder.... | بارود | | Id..... |
| Goat, he.... | جدي تيس | تية | teyah |
| Grain..... | حب | عيش | āsh |
| Gravel..... | حصا | حفش | hafash |
| Grief..... | حزن | حزانوت | hazanōt |

| | | | |
|------------------------|-------|--------------|-----------------|
| Good..... | طيب | مشرة | ..... |
| God..... | اله | بعلی | Bālee |
| Girdle (leather)..... | حولل | ..... | haūbal |
| Gazelle..... | غزال | صعر | sūr |
| Grass (for sheep)..... | حشيش | شجار الحارون | shajar al haron |
| Garden..... | جنيته | ذابر | dahabar |
| Gum arabic..... | صمغ | صمغ | samagh |
| Girl..... | بنت | غجيت | ghajeet |

H.

| | | | |
|-------------------------|---------|--------------|------------------|
| Hen..... | دجا جه | دجوحت | dijojat |
| Honesty..... | عدل | مونت | monat |
| Hand..... | يد | حيد | héid |
| Head..... | راس | حروة | haroh |
| Hair..... | شعر | شف | shof |
| Heart..... | قلب | Id | ..... |
| Half year..... | نصف سنة | فقق ذ سنات | fakah da sinat |
| Hot..... | حرق | حرق | haraq |
| Horse..... | حصان | احصون | hassūn |
| Hoofs (of horse)..... | حوافر | مرظام ذ حصون | marthan d'hasoon |
| Horns (of goat)..... | قرون | قرون الحوذ | karon al hoz |
| Hide..... | جلد | Ibd | ..... |
| Hunger..... | جوع | ..... | ..... |
| Hurt..... | مصرة | جيا ك | jeeāk |
| Heavy..... | ثقیل | شيبير | sheebar |
| Hire..... | كرا | كيرا | keeree |
| Heaven..... | ..... | ذالهل خير | dthal al khéir |
| Hell..... | ..... | ذالهل شيوات | dthal al shleeöt |
| Honey..... | عسل | عسل | ..... |
| Hair-band (bedwin)..... | عقب | قدید | kadeed |
| Heel..... | عقب | مرظامك | mardthāmak |
| Husband..... | زوج | غیچیس | qājās |
| How ?..... | كيف | یبهو | yeboh |

| | | |
|-----------------------------|--------------|--------------|
| Hare..... | ها رنا ب | harnab |
| Here | هنا | boh |
| Herd of Cattle whose ?..... | بقا را المون | bagar al mon |
| Herd of Camels whose?..... | ريكوب المون | rékobal amon |
| Hook (fishing)..... | قلا و | kalaô |

I. J.

| | | |
|-----------------------------|------------|----------------|
| Judge..... | قورظي | kodthee |
| Iron..... | حد يد | Id..... |
| Infant..... | غيجان قنون | qâijan ganoon |
| Inscription (on stone)..... | مكتبه | katob b'saowar |
| Joy..... | فرح | Id..... |
| Jambee..... | جنبيه | jambée |
| Ibex | واعل | wāal |
| I..... | انا | hoae |
| Indigo | صنغ | sabagh |
| Idle..... | كسول | kasool |

K.

| | | |
|------------|----------|------------|
| Kid..... | اهو طر | ahotar |
| Knee..... | برك | barak |
| Knife..... | عيس | âis |
| Kick | مر كظا ت | markadthat |

L

| | | |
|---------------------|--------|-----------|
| Looking-glass | ميروت | méroot |
| Liver | خنفيش | khanfésh |
| Lie.. .. | بادي | bāde |
| Leg..... | لشرينك | lasharank |
| Lip | كرفيف | karfeef |
| Laugh..... | ظحوى | dthahok |
| Light..... | ظوي | dthōee |
| Left..... | حيمل | héimal |

| | | | |
|------------------------|---------------|-------------|-----------|
| Large..... | كبير..... | اثاخ..... | théakh |
| Lamp..... | مصباح..... | | Id |
| Lofty..... | عالية..... | راحق..... | rahak |
| Lizard..... | برص..... | ظوب..... | đthob |
| Louse..... | قملة..... | كنميت..... | kanamét |
| Leaf (Pl)..... | ورق..... | صاف..... | saf |
| Lime..... | | نورت..... | norét |
| Light (op. heavy)..... | | خفيف..... | khafeef |
| Lame..... | اعرج..... | ثبار..... | thabēr |
| Lend..... | رصاع..... | رصوص..... | rassos |
| Lungs..... | فشه..... | نسامك..... | nasēmak |
| Lightening..... | برق..... | بورق..... | boriq |
| Love..... | محبة..... | عجبك..... | ojbak |
| Loose (vest)..... | عريض..... | شاخ..... | shēkh |
| Less..... | قليل ولا..... | شي خور..... | shee khor |
| Land high..... | نجد..... | بديت..... | badeet |
| Land wind N. W ?..... | | نعشي..... | nashee |

M.

| | | | |
|-------------------------|----------------------|------------------|-----------------|
| Man..... | رجل..... | غنيج..... | qâij |
| Milk..... | حليب..... | شخوف..... | ishakhof |
| Mouth..... | فم..... | خوك..... | khok |
| Mother..... | ام..... | هماك..... | hamēk |
| Month..... | شهر..... | ورخ..... | warakh |
| Morning..... | صباح..... | كصوبح..... | kasobah |
| Moon..... | قمر..... | واريت..... | wareet |
| Mane..... | شعر رقة البهايم..... | شوف الحسنون..... | shoof al hassōn |
| Mourning..... | ممر مر..... | قميس..... | gamees |
| Mill (of. Marhahs)..... | | مطحنات..... | matahanēt |
| Mill (of India)..... | | راحات..... | rahāt |
| Mule..... | بغل..... | بغلات..... | baghalét |
| Musquitoe..... | | ذرذير..... | đthardtheer |
| Merchant..... | | انجار..... | tajeer |
| Massack (skin)..... | قربه..... | حنيت..... | hanét |

| | | |
|---------------------------|------------|----------|
| Mist..... | غبرات..... | ghabrét |
| Mountain..... | جبال..... | jibēl |
| Monkey..... | منجه..... | minjah |
| Misfortune..... | ماتوت..... | matôt |
| Match (of matchlock)..... | فتيلت..... | fateelat |
| More..... | هزدي..... | hazdee |

N.

| | | |
|---------------------------|-----------------|-----------------|
| Night..... | ليل..... | bahalee |
| Nose..... | نخريو..... | nakhareer |
| Nostril..... | فلخرنتك..... | fankhar antak |
| Nail (of fingers &c)..... | اضا فو..... | dthafarotan |
| Nine..... | تسعه..... | isét |
| Necklace..... | صريت بغوثي..... | mariyet baghot- |
| ..... | ..... | hee |
| Now..... | الان..... | lasōma |
| Nitre..... | شورة..... | adeet |
| New..... | جديد..... | hèdeen |
| Net (large)..... | منقع..... | mange |
| Net (cart)..... | مغوير..... | maghweer |
| Noise..... | حس..... | hēm |
| Neck..... | غوثي..... | ghothee |

O.

| | | |
|-------------------------|------------|-----------|
| Oil..... | ذيت..... | saleet |
| Old..... | سبخ..... | hēkar |
| Oath..... | قسم..... | Id.....Id |
| One..... | واحد..... | tāad |
| Ostrich..... | نعم..... | kéithar |
| Opposite, in front..... | قدام..... | fanowan |
| Old (cloth)..... | قديم..... | dāweel |
| Old man..... | شبيه..... | haēkar |
| Old woman..... | عاجوز..... | ajoz |

P. Q.

| | | |
|---------------|-----------|--------|
| Patience..... | صبور..... | saboor |
|---------------|-----------|--------|

| | | | |
|------------------------|------------|------------------|---------------|
| Pen..... | قلم..... | قلام..... | kalām |
| Quickly..... | فيما..... | سميح واتوكي..... | samah watokee |
| Quarter..... | ربع..... | ربات..... | rabet |
| Palace..... | قصر..... | قامر..... | kūsar |
| Palm (of hand)..... | كف..... | رحت..... | rahat |
| Pearl..... | لولو..... | Id..... | Id |
| Prisoner (of war)..... | موثوق..... | هوثك غنيج..... | hothak qāij |
| Pistol..... | قرد..... | طابنجه..... | tabanjah |
| Plain..... | سهل..... | حيق..... | hēik |
| Pain..... | الام..... | بشر..... | bashar |
| Protector..... | ربيع..... | reebā | |
| Perspiration..... | نغال..... | naghal | |
| Poison..... | سم..... | sam | |
| Pit..... | خفرة..... | صحفروت..... | mahafaroot |
| Porpoise..... | معيلي..... | macelee | |

R.

| | | | |
|--------------------------------|-----------------|--------------|-------------|
| Red..... | احمر..... | عوفر..... | aofār |
| Rib..... | ضلع..... | ضيلح..... | dthéilah |
| Rain..... | مطر..... | رحمات..... | rahamét |
| Right (op. to left)..... | يميني..... | شيمل..... | sheemal |
| Ring (for finger)..... | خاتم..... | خونم..... | khotim |
| Rock (large)..... | صخرة..... | صورحنوب..... | sowar hanob |
| River..... | نهر..... | ناحر..... | nahar |
| Rainbow..... | قزح نفاجه..... | قذات..... | kazat |
| Rat..... | جردون..... | جراد..... | giréd |
| Root (of tree)..... | اصل..... | عروق..... | aroq |
| Rice..... | رز..... | حيراذ..... | héráz |
| Rope..... | خبل..... | قيود..... | keood |
| Ruin (of anct : building)..... | برهيس واقت..... | barhēs wakat | |
| Road or way..... | حورم..... | horam | |

S.

| | | | |
|------------|---------|-----------|--------|
| Shade..... | ضل..... | هولا..... | hawala |
|------------|---------|-----------|--------|

| | | | |
|------------------|----------|----------|-------------|
| Sincerity | صدقة | صدقات | sadigat |
| Scorpion | عقربة | قبدین | kabeen |
| Spider | عنكبوت | شبکیت | shabakeet |
| Sea | بحر | رورم | roram |
| Sheep | نعجة | ثیویت | theeweat |
| Salt | ملح | ملحات | malhat |
| Serpent | حية | دبت | dabat |
| Shoulder | كتف | كتفه | katfa |
| Skin | جلد | جلدت | jaladét |
| Side | جنب | جنبتك | jambatak |
| Six | سته | یتیت | steet |
| Seven | سبعة | یبات | ibét |
| Small | صغير | قنون | ganoon |
| Sugar | سكر | سگار | askeer |
| Stirrups | ركابا | حلقا | halgät |
| Spear | رمح | قنا | kanät |
| Sword | سيف | شكي | shakee |
| Sky | فضا | هیتم | hétem |
| Sun | شمس | حیوم | héiom |
| Star | نجمه | كبکوب | kabkob |
| Scales (of fish) | فلوس | صاف | saf |
| Snail | قوقع | حوکین | hokeen |
| Sap (of a tree) | صنخ | حموة شرة | hamo sharah |
| Seed | | حبيب | habbáb |
| Sand | رمل | بطح | batah |
| Stone | حجر | صور | saowar |
| Sulphur | كبريت | Id | Id |
| Starving | تزعف | شیلا | sheela |
| Sleep | نوم | شنان | shanat |
| Slumber, sleepy | نعلس | هندک | handak |
| Sorrow | غم | بوکي | bokee |
| Song | غنا | غنوي | ghanoe |
| Shivering | رجفة | یطوط | yataowat |
| Storm | ريح عاصب | البدات | alabadet |

| | | | |
|---------------------------------|--------------|----------------|-----------------|
| Sick..... | مريض | حمل الع | hamool ala |
| Straight (op. to crooked)..... | سماح | | s'mah |
| Scissars..... | مقص | مقراض | mogradth |
| Sails..... | شروتان | | sharōtan |
| Ship..... | مركب | مركب | markab |
| Silk..... | حرير | Id | Id |
| Stomach..... | معدة | كرش | karash |
| Silver..... | فضة | فطت | fadthat |
| Saddle..... | سرج | شد | shad |
| Standard (of an army)..... | منشق | ذاربيت ذاعسكار | dtharabét askar |
| Steel (for striking light)..... | زناد | قرات | Id |
| Slowly..... | هونا هين هون | خرو خرو | kharo kharo |
| Seer-fish..... | كناد | طرنكى | tarnack |
| South wind S. W. ?..... | كوس | مديات | madeet |
| Seawind S. E. ?..... | | بحري | bharee |
| Shaykh..... | | دولت | dawalt |
| Slave..... | | حوجور | hojoor |
| Safe..... | امان | صون | mōn |
| Spring (of water)..... | | مايون | maeeon |
| Stream or Brook..... | | صرف | saraf |
| Stairs..... | | مشعبات | mashabét |

T.

| | | | |
|------------------|------------|----------|--------------|
| Temper ill..... | سيرة شريفة | غيج فومل | qaij fōsal |
| Temper good..... | جيد لصيغ | غيج مشرة | qaij mashrec |
| Tin..... | قزير | رازيس | razees |
| Two..... | اثنين | ثروة | tharo |
| Ten..... | عشر | عشرية | ashareet |
| Town..... | بلد | رحبات | rhabét |
| Tree..... | شجرة | شجريت | shajareet |
| Thunder..... | راعد | اهد | had |
| Tongue..... | لسان | الشين | alsheen |
| Tooth..... | سن | مظورح | madthora |
| Thigh..... | فخذ | فامك | famak |

| | | | |
|---------------------------|--------------|-------------|-------------|
| Toes..... | اصبع الرجلين | شوبع | shōbah |
| Tomb | قبر | قبور | gōbar |
| To-day | اليوم | يامه | yamoh |
| Turtle..... | | حمسيت | hamseet |
| Tail-fin (of fish)... | ذيل | ذنوب | dthanob |
| Trunk (tree)..... | قرمة | مجدوت | majindōt |
| Thorn..... | شوك | شكا | shāka |
| Thirst..... | عطش | ظمون | thamōn |
| Talking..... | مخاطبة | غروي | gharoose |
| Thread..... | خيط | ld | khét |
| Three..... | ثلاثة | شاظا | shāthét |
| Tower (round) | برج | درب | drab |
| Thus, so,..... | كذا | واطة او اطة | oatha oatha |
| They..... | هم | نهم | nahana |
| This, that..... | هذا ذلك | ذذا ذاك | đtha dthak |
| There (place)..... | هناك | حلوك | halök |
| Track (of footstep)..... | | حضر | badth |
| Tears | | دمات | damāt |
| Throat..... | زور رقبة | قرد | garad |
| Thou..... | انت | هيت | hét |
| Tomorrow..... | بكرة | جهما | jahamma |
| Teat..... | | واطب | wōtab |
| Tide flux and reflux..... | | موشر | moshar |
| Tamarhind..... | | صبور | sabor |

V.

| | | | |
|-----------------|-------|--------|-----------|
| Victory | غلبة | مغلبيت | maghalbét |
| Vanquished..... | مقهور | قهري | kahree |
| Valley | وادي | خوطر | khōtār |
| Voice..... | صوت | هرجات | harjat |

U.

| | | | |
|------------|--|------|-------|
| Udder..... | | نايت | naeet |
|------------|--|------|-------|

W.

| | | | |
|----------|-----|------|--------|
| War..... | حرب | غورت | ghorat |
|----------|-----|------|--------|

| | | | |
|------------------|------------|----------------|----------|
| Wall..... | سور..... | درب..... | darab |
| Wine..... | خمر..... | خامر..... | khāmēr |
| Wound..... | جرح..... | صوب..... | sōb |
| Water..... | ماء..... | حموة..... | hamoh |
| Wisdom..... | حكرم..... | عوقل..... | ōkal |
| Wife..... | امراة..... | حرما ت..... | harmēt |
| Woman..... | امراة..... | حرما ت..... | haramēt |
| White..... | ابيض..... | البون..... | allabōn |
| Wedding..... | خصبة..... | هاروس..... | haros |
| Well..... | يبر..... | Id..... | Id |
| World..... | دنيا..... | عرض..... | aradth |
| Wave..... | مرج..... | موجت..... | mojat |
| Wind..... | ريح..... | رياح وكول..... | reah kol |
| Wolf..... | ذيب..... | كوب..... | kob |
| Whale..... | حوت..... | شوحات..... | shohēt |
| Wakefulness..... | يقاض..... | قهپود..... | kaheod |
| Wet (damp)..... | | ثبري..... | théree |
| Wool..... | صوف..... | شف..... | shoof |
| Wood..... | حطب..... | ظرب..... | dtharab |
| Wing..... | جناح..... | Id..... | janāḥ |
| Weak..... | فأيف..... | هوين..... | hoween |

Y.

| | | | |
|----------------|-----------|-------------|-----------|
| Young..... | شاب..... | قنون..... | ganoon |
| Yellow..... | اصفر..... | اهظور..... | hadthor |
| Year..... | سنة..... | هنا ت..... | sanāt |
| You..... | | هيت..... | hét |
| Yesterday..... | امس..... | بمشيه..... | yamsheeah |
| Yawn..... | | فلروان..... | fatarooan |

Verbs.

| | | |
|-----------------------|------------------|--------------|
| Come here..... | كالبو..... | kāl boh |
| Go there..... | سارا الحلوى..... | sar al halök |
| Give me a little..... | هت شي..... | hat shee |

| | | |
|-------------------------------|--------------|------------------|
| Do not go there..... | تسيور ل | ta seor la |
| Open the gate..... | فتا ح بوب | fitaha bob |
| What is the matter..... | بوك هاشن | bok hēshān |
| What is your name..... | همك مون | hamak mon |
| Where are you travelling..... | نوكعك من هو | nokāk man hoh |
| Good evening..... | بوه وتخفكم | boh watakhaḥ kom |
| I am a bout to go..... | احوم الهقر | ahom alhagar |
| I want to drink..... | احوم اتق | ahom athag |
| What do you want..... | نحوم هاشن | tahom hēshān |
| Where are you from..... | مسوفرا الهوه | masofar al hoh |
| Dress..... | البوس خلوق | alabos khalōq |
| Never mind..... | يخلفا ل | yakhalf ala |
| Ask (something)..... | عتير شه | atheer (sheea) |
| Hear..... | همع | hama |
| Strike..... | البدع | albadēe |
| Collect..... | جمع | jammā |
| Take hold of it..... | هثق | hothuk |
| Open..... | فتا ح | fataha |
| Come back..... | ردد | radād |
| Eat..... | ته | tah |
| Come..... | نكاي | nakāee |
| Wait..... | صلوب | salob |
| Run..... | هوا ح | howah |
| Do..... | عمول | amol |
| Get up..... | عشيش | asheesh |
| Sit..... | ثوول | thowal |
| Call..... | سوق | soq |
| Take..... | هت | hāt |
| Drink..... | تقي | tokee |
| Go..... | حرة | harah |
| Buy..... | شتموم | shatom |
| Ride..... | ركوب | rakob |
| Say..... | غثير | ghateer |

| | | |
|-------------------------|----------|---------------|
| Sneeze..... | عطشات | atishét |
| See..... | شكس | shinks |
| Understand..... | غربك | gharbak |
| Laugh..... | يضحك | yadthahok |
| Clean it..... | رخطه | rahadtha |
| Throw it away..... | ردة | ardah |
| Place it above..... | طرحه حقا | tarah haghala |
| He flies..... | يفرور | yafaroor |
| Vomit..... | يقيوي | yakeewee |
| To taste (examine)..... | طامه | tām |

Sentences.

| | | |
|--|----------------------------|-------------------------------------|
| It is of no use..... | يجوز له | yajoz la |
| Do..... | ينفع له | yanofa la |
| Where are you going..... | الهيحوم | alho eehom |
| Man dead is put in the grave..... | غيب موت نهما الهال
قوبر | qalj mot naham alhal
gobar |
| The man said you struck me..... | غيب عمورهت البودكي | qāj amoor hat al bōdā-
kee |
| And the other said I did not strike you..... | واذاك عمورهو البود
كالح | o dtthick amoor ho albo-
dak ala |
| I want to swim..... | حوم السبح | hom al sabaha |
| Do not fear..... | افزعك له | fazakala |
| Who loves me I love him..... | هال ذيا جوبي اجوب
به | hal dthe ajobbee ajo-
bah |
| What you wish I wish.... | الحال تحوم هواحوم | al hal tahom ho ahom |
| What are you doing..... | يبوة تعمل | yaboh tamol |
| In the house..... | با بيت | ba bet |
| All are good..... | كلهم جيد | koolhom jeeat |
| The people say..... | غير कहाبو | ghateer kahaboo |
| Vicinity of a well..... | شترير | ishthareer |
| In the house..... | برك بيت | barik bet |
| First day of the moon or month... | هيوم ذا ورخ | hēom da warrakh |

| | | |
|--|------------------------------|----------------------------------|
| Good morning | صباحكم | ṣabakah |
| The brain of the head. | دماغ ذ حروة | damagh d heroh |
| A place where there is no water or people (desert) | قابه حموة الع وقع به هبو الع | kabee hamoo ala o kabee habo ala |
| I cannot do this..... | قود ر العمله الع | kaodar alamalah la |
| Like a bird..... | غروري ذ الطير | gharo dtha târ |
| Take the money and give it to the Shaikh..... | ظوط د اريهم و اذا مسن دولة | dthot dariam o azamsân dawalt |
| What news from the place! .. | شي خبر من مكان | she khabar min makan |
| What do you say?..... | يا به تغتوري | yâboh taghatoree |
| You say what?..... | تا عموري به | tamoor yâboh |
| He is dead or living?.... | متوت والا حيوت | mâtoot walla hê'oot |
| Every thing is ready..... | كله نوجز | kalah nojas |
| The boat is going to load with dharah..... | منبوق جهام يشلول عيش | sanbook jahan yashal al ysh |
| It tastes bad (dharah).... | طامه يغموم | tama yaghamon |
| It tastes good..... | طامه حچيد | tama hajeed |
| Look at the red clouds.... | غلا عفور عوفرف | ghalla afoor asfar |
| What does the Shaikh say?..... | ايه عمورد ولت | eaboh tamoor daulat |
| Where do you live now?.. | هوه تحلول لعصومه | hoh taholol asomah |

An experienced eye, on carefully reading over the above vocabulary, will at once observe the nature of the inaccuracies in the Mahrah's Arabic spelling. For instance, the pronominal affix ك is frequently added to names of parts of the body or any thing directly relating to man ; ا, is also frequently substituted for the article ال, and often introduced when its vowel-sound would be sufficient &c. But these and other similar errors are of no great consequence, since they are easily detected, and cannot alter the radical spelling of the words, which are presented to the reader as the Mahrah wrote them. That the vocabulary therefore is perfect, I by no means wish to assert, but that so far as it goes, when the opportunity offered, an attempt to procure a little of the Mahrah language has not been wholly overlooked.

Remarks on the preceding Vocabulary by the Secretary.

This vocabulary of Mahrah words, though limited and imperfect, is the first attempt to collect facts from which we may trace the affinities of the language, cognate with the primitive Syrian or *Aramæan*, the Hebrew, and the current dialect of Northern Arabia. M. Fresnel, in the Journal of the Asiatic Society of Paris,* has given the grammatical principles peculiar to the *Mahri*, but withholds in a great measure the Philological evidence of words on which he has founded his conclusions. The present may be the ground work however for further extended investigation into this interesting dialect of Southern Arabia, termed by the inhabitants themselves the *Ehkkili idiom*, and by the people of *Hejaz*, or Northern Arabia, the *Mahri*. It is more commonly known however to learned Arabs under the name of *Hamyari*, and becomes more peculiarly an object of curiosity, connected, as it is supposed to be, with the idiom of the Hamyaric Inscriptions, the decyphrement and reading of which may be said to extend, at present, little beyond a knowledge of their alphabet; and which from some recent examples appears to have been written alternately from left to right, and from right to left, like the writing of the Greeks, called Βῆστροφῆδον. The Geographer El-Edrisi, speaking of the *Curia Muria* islands, on the coast of Southern Arabia, says, "as to the islands of *Khartan* and *Martan*, of which we have already made mention, they are situated in the *Gulf of Herbs*, and are dependencies of the country of *Shajr*, where grows the Frankincense. They are in a flourishing state, inhabited by an Arab people, who dwell and live here, and who speak the language of the people of *Ad*, which is ancient and unknown to the Arabs of our day.†"—Masudi also somewhat earlier, in his "Meadows of Gold and Mines of Jewels," speaking of the country of *Shihr*, in Southern Arabia, says, "The inhabitants, who are of the tribe of *Kozaah-bin-Malik-bin-Hamyar*, and are called *Mahrah*, speak a language quite different from that of the Arabs; as they constantly use the letter *Shin* instead of *Kaf*.‡

* Journal Asiatique, troisieme serie, Tome VI. Decembre 1838, f: 529.

† Geographie D'Edrisi traduite de l'Arabe en Francais par M. P. Amedee Jaubert, Tome Premier f: 48.

‡ Masudi under the section of his work, giving an account of the different seas, and the nations on their shores.

The Southern Arabs establish a distinction between the dialect of the *Garas* and that of the *Mahras*, asserting that the former contains a much less proportion of modern Arabic than the latter; so that an inhabitant of the coast of *Shihr* شحر, who knew no other Arabic than that of his own proper dialect, would be unable to comprehend the language of the people of *Shajr* شجر, who are the *Garas* occupying the Sabhan mountains and the coast from Cape *Shajr S. W.* to *Marbat* and *Hasek N. E.* These dialects of the two tribes are but idioms however of the same language, in which are found many Hebrew words not met with in Arabic; and both are perhaps, as Fresnel supposes, the elder sisters of the former. The proper appellation of the original idiom among the *Garas* is the *Ehkkili*, spoken at *Marbat* and *Zafar*, and throughout the district of *Shajr*: the Geographical limits of which, as we shall immediately notice, have been confounded with those of *Shihr*, or the maritime part of *Hazramaut*, chiefly occupied by *Mahras*, descended as would appear from the more ancient and original tribe of *Garas*.

It is principally in the country of *Shihr* that those Hamyaric Inscriptions are to be found, which were first brought to light by Officers of the Indian Navy, and which have latterly attracted so much learned attention from those cultivating a knowledge of the Semitic languages. A now desolate Fort on the sea shore,* in lat: $14^{\circ} 38' 30''$ N. Longitude $49^{\circ} 27' 35''$ E. seems to have given name to this tract of country, which corresponds as nearly as may be with the maritime part of *Hazramaut*; and is distinguished from that of *Shajr, N. E.* called after the Cape of this name, situated between *Ras-Fartak* and *Marbat*. The latter is called by *Abulfeda Sowahil Zafar*, or the coast of *Zafar*, or *Dhafar*, an ancient city of this quarter, of which the ruins are now called *El-Balad*, or the town *par-excellence*. It has been frequently confounded with the inland town of the same name† belonging to the *Sapphorite*,

* *Abulfeda*, in the preface to the *Takwim-al-Baldan*, says that between *Shihr* and *Hazramaut* is only a distance of four days.

† *Monsieur Fresnel*, in his fourth letter on the history of the Arabs previous to the period of Islamism, *Journal Asiatique* Juin 1838, maintains that the ruined town, now called *El-Balad*, on the coast of *Marbat*, is the ancient *Zafar*, which was the capital of the Hamyaric Kings; but in this opinion he is certainly in error, as the *Sephar* of *Genesis*, is in the territory of *Jahssab*, a

but which has been satisfactorily identified by Niebuhr with a site, where are some Hamyaric Inscriptions, about two and half German miles *S: S: E: of Jerim*, in lat : $14^{\circ} 17'$.—This identification places the original seats of the *Homeritæ*, or tribe of Hamyar, much further to the westward than the maritime district of *Shihr*, where those Inscriptions have hitherto been chiefly found; and would lead to the inference that the maritime *Zafar*, was the capital of the *Ascitæ*, mentioned both by Ptolemy and Pliny, as situated in the neighbourhood of the sea near *Cape Syagros*, which corresponds with Ras-Shajr. The *Ascitæ* may have been named from being situated on the *Jun-al-Hashish*, or the Gulf-of-herbs, which is the Arabic name for the Bay in which *Khartan* and *Martan* lie; and though we cannot venture to assert that the name was only another appellation for the *Gerræ*, a poor people who originally fled from Chaldea to Arabia,* there is strong presumptive evidence that the modern *Garas*, whose language has so many affinities common with the Syriac and Hebrew, are descendants and remains of this ancient colony.—The most remarkable of these affinities can be best shewn in the following table, in which the Mahra dialect, is compared with that of Socotra, an undoubted derivative of the Ghiz or Ethiopic.

The two districts of *Shihr* and *Shajr* are but the maritime boundaries of the country properly known, by the name of *Mahra*, which is an extensive central desert, composed chiefly of moveable sands, interspersed with hilly tracts.—The length and breadth of this dry and barren

district of Arabia between the Red Sea and Sanaa, and not on the Indian ocean, as must be assumed by Monsieur Fresnel's identification. It is true that Abulfeda and Masudi only make mention of the maritime *Zafar*; but the absence of their testimony to their being a more ancient and inland town of the same name is no decided negative to the faithfulness of Niebuhr's identification, which is thus confirmed by the words of Edrisi's Geography—"Dhofar is the capital district of Jahsseb. It was formerly one of the most considerable and celebrated villages. The Kings of Yeman had here their residence, and here is to be seen the palace of Zeidan. These buildings are now in ruins and the population much reduced. The inhabitants have however preserved some remains of their ancient wealth, and possess cultivated fields and date trees in sufficient number for the supply of their wants." A very full account of the ruins and present state of El-Balad, or the maritime *Zafar* near Marbat, by Dr. Carter, has been published in the Transactions of the Bombay Geographical Society for 1844.

* Strabo, Book XVI, page 766.

waste, has never been accurately ascertained either in ancient or modern times, though the Arab Geographers tell us that it is nearly nine hundred miles in length, and from fifteen to twenty-five miles in breadth.— Its greatest extent would appear to lie from the eastern portion of Arabia, near Ras-al-Had, to the mountain districts in the neighbourhood of Mekka. The following is the account of it by *Edrisi*: “The country of *Shajr*, inhabited by the Arabs of *Mahra*, who are of an unmixed race, adjoins that of *Hazramaut*. The camels which are produced here are unequalled for swiftness. It is reported also that with very little care they can be brought to understand whatever you wish them. They have names given them by which they are called; and they come to tender their obedience without hesitation. The principal fort of *Mahra* is *Shajr*. The language of the inhabitants is so corrupted that it is difficult to understand them; it is the ancient *Hamyaric*. This country is very poor. The only resources of the inhabitants consist in the transport of merchandise, and in the traffick of goats and camels. They feed their cattle on a species of fish known under the name of *wark*, which is caught in the sea of Oman, and which they give to their cattle after exposing it to dry in the sun. The people of *Mahra* are unacquainted with either corn or bread. They live on fish, dates, and milk, and drink but little water; they are so accustomed to this diet, that when they go into the neighbouring countries, and have to eat either bread or farinaceous food, they are made uncomfortable, and are sometimes seriously ill. It is said that the whole length of the country of *Mahra* is 900 miles, and its breath from 15 to 25 miles. It is composed entirely of moveable sands; and from the extremity of the country of *Shajr* to *Aden* is reckoned a distance of 300 miles.”* Baron Wrede during an excursion in Hazramaut reached the borders of this desert after a 6 hours’ journey to the N. W. from *Sava* in the Wadi Rachie. He describes it as an immense sandy plain, strewed with numberless undulating hills, which give it the appearance of a moving sea, without a single trace of vegetation to animate the vast expanse. †

* Recueil de voyages et de memoires publié par la Société de Geographie, de Paris, Tome cinquieme feuillet 150.

† Baron Wrede’s excursion in Hazramaut, in the Journal of the Royal Geographical Society, vol. XIV p: 110.

The following are a few of the Mahri words compared with Socotran and Hebrew.

| English. | Mahari. | Socotran. | Hebrew or Chaldee. |
|---------------------|------------------|-----------------|--------------------|
| Back | Dhara mothan.... | ..tadah | ..jaoi |
| Belly | ..djof | ..tadah | ..jofah |
| Cow | ..bakarét | ..tadah | ..bakar |
| Donkey | ..heir | ..tadah | ..zaher |
| Eyebrow | ..ahajor | ..haj-har | ..jaboth |
| Fire | ..sheewot | ..sheiwat | ..eshüata |
| Father | ..heb | ..tadah | ..ab |
| Four | ..robot | ..tadah | ..raba |
| Fish | ..seit | ..sodah | ..tadah |
| Frog | ..dthafzüt | ..tadah | ..zafreda |
| God or Master | ..balee | ..tadah | ..baal |
| Hair | ..shof | ..shif | ..tadah |
| Here | ..boh | ..tadah | ..pah |
| Ibex | ..waal | ..tadah | ..ael |
| Knee | ..barak | ..tadah | ..berek |
| Lofty | ..rahak | ..tadah | ..rahak |
| Lizard | ..dthob | ..tadah | ..zab |
| Milk | ..ishakhof | ..huf | ..tadah |
| Month | ..warakh | ..tadah | ..yerah |
| Moon | ..wareet | ..tadah | ..yerah |
| Net (cart) | ..maghweer | ..tadah | ..mager |
| Nose | ..makhrir | ..nahir | ..af |
| Nine | ..iset | ..saah | ..thisath |
| Red | ..aufar | ..aufir | ..tadah |
| Rice | ..hiraz | ..arhaz | ..tadah |
| Rope | ..keiod | ..ket | ..tadah |
| Six | ..yiteet | ..yitah | ..tadah |
| Sword | ..shakee | ..ashko | ..tadah |
| Sun | ..heiom | ..shohum | ..tadah |
| Stars | ..kakhob | ..kokab | ..tadah |
| Two | ..tharo | ..tarawa | ..tadah |
| Ten | ..ashareet | ..tadah | ..ashareth |
| White | ..allabön | ..lebbem | ..laban |

Before the Koran had fixed the Koraish dialect of the Arabic language, the several vernacular idioms spoken in the Arabian peninsula, and in the plains between Syria and Mesopotamia, were indiscriminately used

in the earliest verses of Arabic poetry, called *rajaz*; which, from the variety of words and expressions they contain, were the favorite objects of study among the Arabic philologists and grammarians. Of these dialects the Hamyaric, spoken by the descendants of Kahtan, is considered generally to have approached nearer the purity of the *Aramæan* than the dialect of the Koraish; and the great number of Hebrew formations and words found in the *Mahri*, seems to support the truth of this opinion. It is also confirmed by Masudi, who makes Kahtan, or Joctan, to be descended from *Arfakhshad* and to speak *Suryani*; and states that *Yarub*, the son of Kahtan spoke another language that differed from the Syriac, and was as some think the Hamyaric dialect of Arabic; of which we must consider the *Garawi* and the *Mahri* to be remains, corrupted indeed by an admixture of Indian and even Greek words; which, if not borrowed directly from their original countries, were obtained from the inhabitants of Dioscoridis, or Socotra, whose inhabitants were in the time of Arrian's *Periplus** a mixed race of Arabs, Indians, and Greeks.

One can scarcely fail to notice the similarity of the Mahri *ojbak*, (love) and the Greek term *αγαπη* though the former be disguised by the additional *k* which is the pronominal Arabic affix of the second person; nor can we be deceived in concluding that *افور afoor*, from *अभ्र abhr* a cloud, and *مانعش maanash* the Arabic noun of place, formed from *नाश nash* (annihilation), are evident Sanskrit derivatives. The Mahri terms for *heaven* and *hell* are also of Indian origin; the Arabic *dihal*, or Sanskrit *स्थल sthal*, (place) when compounded with the article *al* and *kheir*, (goodness) being the appellation for heaven, or the place of the good; while *dihal-al sheeot*, signifying the place of fire, stands as the denomination for hell. But we shall not now pursue these interesting affinities of Mahri, which would require for their complete elucidation a more extensive vocabulary of the dialect than the one now given, and more ample illustrations of the grammatical principles common to this language, the Syriac, and the Hebrew, by one intimately acquainted with these three. There is enough, however, to excite interest and encourage further research.

J. B.

* Arriani Periplus Maris Erythræi in editione Geographiæ veteris, Oxoniæ vol: I f: 17.

अग्रिमं नो प्रादि ॥ स्वावांसय कुट्टिमं लं मुनं । अमृत
कुमलं कलं ॥ अमृतं यति ॥

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Exc-Simile

स प्री ० ॥ मुक्तपः किं नो कुपितं
प्रति तासां मुक्तिं ददाति मुक्तिं ददाति
मीमं ददाति ना ॥ ७७ ॥ न मावी न
मन्यते न च न आ यति न न

मुक्तिं ददाति मुक्तिं ददाति
मुक्तिं ददाति मुक्तिं ददाति
मुक्तिं ददाति मुक्तिं ददाति
मुक्तिं ददाति मुक्तिं ददाति

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माकाङ्क्षे कथं वा
पुत्रीद्वयं कदि मु
र्त्तुना विंकां हः० ति
संभुङ्क्षि न संपरि
वत्कुल्य वदय स
वत्समं वदयि मा
काङ्क्षे ॥ तच्च भूतद
वती ॥ ह्यः० तस्मि
द्वयः ॥ द्यामि द्याप

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वसुं तसि वा माया दु
वया दे नाह्यिं रु वा रि
नत्स माह्य लक्ता विमु
कु र सम दक्षे ॥ पत्नी
कु योः कुल पाहुय कुलो
अपुदा किय युग दृष्ट क
म पाणि दितां तु मय यं क
कु न मे म न मां मपि ति ॥ व
कु द यि पाक द कुं कु ल्पे ॥

1. FAC-SIMILE OF THE SAMANGAR COPPER-PLATE GR.

स रु सा कि गा य । अ व स वि गो ष अ रु म रु ग ल पि वा
 रु ल्ल र क र य द्र प लो क क्षी दं कि दु न्न ना ह द्र दं म द्रु
 य प ति ग्ना म रु ट य वा रु सु ति प ल स प य य द्रु
 प व ज प्र नु षि क स क का ल स व ल स न स द्रु य सि
 नि रु टां मा के मा स र ष स प्र षा त म प्र रु ह
 ल न स प ल य मा रु व द्र य को षा र पं ड स न
 रु न रु सु ति प न न रु षा र रु म न रु न रु

FAC-SIMILE OF THE SAMANGARH COPPER-PLATE GR.

स ह मा हि गा या । य व स वि गो ष्ठ रु म रु ग स पि ना
 रु ण क ण द्वा प लो क क्षी दं हि दु म्ना त द्वा ः स र्ग
 य प ति ग्ना म रु टं य षा रुं पु ति प रु ष प य य पु
 प व ज प्र गु षि क स क क त्प स व त्स न म न् स रु य ति
 नि क टां मा णे मा श्व र ष स प्र णा त्प पु रु ष
 स न स्र म ण य मा रु य द्वा य को ण र पं ण स न
 रु ण वी स ति दं हि न रु णा त्प रु ण रु

[illegible]

Fac-Simile.

दीगामः । रङ्गिणः
 गामः ३ ३ रतः ३ ३
 पति ३ ३ ३ ३ ३ ३
 तुलिमः ३ ३ ३ ३
 विवमः ३ ३ ३ ३

ARTICLE II.—*A Sanskrit Copper Plate Inscription, found in the Fort of Samangarh, in the Kolapur country, dated Shaka 675 (753 A. D.) and translated into English.*
By the late Ball Gungadhur Shastree.

May he (Vishnu), whose lotus-navel Brahma has made his seat, preserve you, as well as Hara (Shiva), whose head is adorned by a handsome phase of the moon. There lived a virtuous king, named *Govind Raja*, who, being always foremost in battle, and destroying his enemies with his uplifted sword, as the sun's orb removes the darkness prevailing in the night, became known by the title of the lion of kings, in the remotest quarters of the earth. Whenever he perceived an army in front, he biting his lips, and with eye-brows bent up, loudly laughed (at his enemies) in battle, relying upon his scimitar, (the nobility of) his family, his heart, and his spirit. No sooner he lifted up his scimitar, or even his name was mentioned, than grace, honour, and spirit, unseasonably departed from his enemies and at once. His son, *Kaka Raja*, shone in the family like a gem; supporting, like Hari (Vishnu,) a high character for relieving the distresses of the oppressed, and returning evil for evil, though grateful for the favours he received from others. While he was ruling over the earth, the tame peacocks cackled every evening for joy, mistaking for clouds the summits of palaces, smutted by the volumes of smoke proceeding from the sacrifices of the twice-born. These pacific Bráhmans, in the practice of their devotions, sprinkled so much sacred water that people had to pass through ankle-deep liquid. To him was born a son, named *Indra Raja*, the region of whose shoulders was scratched by contact with the teeth of elephants, whose gaping temples emitted a copious stream of temporal juice. He supported Rástra Kútā, as the golden mountain (supports the earth), and protected the world, destroying all his enemies. His queen who, like moon-light, complying with the desires (of supplicants) and removing the gloom (of poverty), was descended on her mother's side from the lunar race, and on her father's side from the Shalukya (Chalukya) race, in respect to the affording of protection and maintenance without reference to the service performed by the people, she attained an exalted rank among the ornaments of her sex. The good king *Indra Raja* had by her a virtuous son, as a recompense

for the protection afforded by him to this earth. The world being deprived of the splendour of *Indra Raju's* glory, *Shri Danti Durga Raja* assumed the functions of the sun to his lotus-like family. The elephants of his enemies, terrified in battle, as at the sight of a lion, fled away, pulling up their picketing-posts by the roots; and no body knew what became of them. The turreted castles of his enemies fell with their spirits, unable to bear the heat of his prowess and his wrath. Men perceived with astonishment the demolition of the steep banks of the great river *Rèva* (*Narbudda*), effected by his victorious elephants. His filial affection was demonstrated in the grants of land made by his mother in four hundred thousand villages. He obtained the title of the king of kings and great lord (of the earth), by subduing *Vallabha* without any effort, such as that of wielding weapons and sending armies, but merely by the torsion of his brow. He defeated with a few of his followers the whole army of the *Karuataka*, which had been renowned for the humiliation of *Sriharsha*, the king of *Kanchi*, *Kerala*, *Chola*, and *Pandya*. This *Danti Durga Raja*, the lord of the earth, &c. commands all provincial and district chiefs, and heads of villages in their respective capacities, to take notice as follows:

In the *Shaka* year 675 corresponding to *Samvat* 811,* on the 7th of *Magha*, called *Ratha Saptami*, we, being desirous of securing virtue and fame to our parents and ourselves, have granted, by formally pouring water, the village of *Dèulvat*, situated in the district of *Koppar*, to *Narayan Bhatta*, of *Vasishta Gotra*, inhabitant of *Karàhataka*, the grandson of *Trivikram Bhatta*, and the son of *Krishna Bhatta*, eminently skilled in the *Vedas* and their subdivisions. This small gift of land is made for the promotion of the *Agnihotra* and other sacrifices. It is not to be entered into by the military and other officers of Government, or by any evil-disposed persons; but should always be protected and relieved from oppression by all future kings, whether belonging to the family or not. To the east of the said village lies new *Tyalavalhi*; to the south *Paragopagràma*, belonging to the *Brahmans*; to the west, *Higgur-vade*; and to the south, *Artavatagrama*. The village, bounded as above, has been given away altogether with all its revenues, arising from vegetables or minerals, or from fines, taxes, and other sources. May it receive invariable protection while being cultivated by the *Brahman* himself, or by others for his use and profit. As said by *Bhagwan Vyas*, he who

* The mention of these two dates is not uncommon in the grants of Southern India, according to Mr. Walter Elliott. See *R. Asiatic Society's Journal*. No. VIII 1837 p. 2.

much from that assigned by Mr. Prinsep to the 8th century of the Christian era; and from a note of Mr. Wathen's at the end of the Van Dindori Inscription, the resemblance between it and the modern Deva Nagari is not less striking.—The Cave character may have been in use in almost all its purity, as supposed by some, at the period under consideration; but from the evidence of the Valabhi plates* dated 328 A. D. and a mass of other Inscriptions, it is very certain that a modification of it was introduced into many parts of the Dekhan at a very remote period.

As Mr. Walter Elliott has not found any record of this family in the numerous collections which he made to the south of the Krishna, it is probable that its power never extended much beyond that river, notwithstanding the defeat of the Karnataka forces mentioned in the accompanying Inscription, and the excursions beyond the Tungabhadra adverted to in the Van Dindori grant. More extensive conquests were made by the Yādavas of Rāshtra Kūta towards Marwād and the Vindhya mountains. The Rāshtra Kūta family may hereafter be found to have some connexion with the Rattas, so frequently spoken of in the History of Rājasthan.

From the absence of the classical surname (the Yadavas) of this family, both in the accompanying and the Van-Dindori grant, we may suppose that it was not assumed by those who laid the foundation of its greatness. That the power of the Rāshtra Kūta family was in its infancy, in the days of Danti Durga, may also, to a certain extent, be inferred from the language of the accompanying grant, which is not only extremely simple but incorrect and unidiomatic in many places; showing that his Court was not yet adorned by poets or engravers of any eminence.

The seal obviously bears Shiva's image with a crescent and a snake.

The only other circumstance worthy of notice is the descent of Danti Durga's mother from the family of the Chālukyas, the opponents of the kings of Rāshtra Kūta.

The Brahman to whom the grant is made, is said to be an inhabitant of Karhātaka, (Karada or Kurar,) on the banks of the Krishna. The village assigned to him, as well as those places referred to as its boundaries, are all to be found in the neighbourhood of Kolapur; but I am not able just now to ascertain the precise locality of the gift. †

4th May 1846.

BALL G. SHASTRÉE.

* Bengal Asiatic Society's Journal for September, 1835.

† The Copper-plate grants belonging to this family, and their predecessors the Chālukyas, are of much interest and importance in their relation to the history of the Jaina religion.—*Jina Sena Acharya*, the author of the Jaina Puranas, is said to have been the Guru, or spiritual preceptor of *Amoghavarsha*, a Jain prince, of the Arcot district in the end of the ninth century, (*Wilson's Mackenzie Collection Vol. 1 pre: p. xxvii*) who appears to be the same as the *Amoghavarsha* 14 of the Kharepatan grant, published in our Journal Vol: I p : 209.—*Editor.*

Transcript of the Plate in Modern Devanagari.

स्वस्ति सवोऽया द्वेधा साधामयन्नाभिकमलंकृतं । इरभयस्य कात्तेन्दुकलया
कमलंकृतं ॥ आसीद्विषन्तिमिरमुद्यतमण्डलाघोष्वस्तीस्तिन्नयन्नाभिमु
खोरणशर्व्वरीषु । भूयः शुचिर्व्विजयितासदिगन्तकीर्तिगोविन्दराज इति
राजसुराजसिंहः ॥ दृष्ट्वा च मूमभिमुखी सुभटादृहासमुन्नामितं सपदि
येनरणेषु नित्यं । दष्टाधरेण दधता भृकुटीललाटे खड्गकुलं च हृदयं च
निजं च सत्त्वं ॥ खड्गं कराय श्रयत श्वशोभामानो मनस्तस्य मेव यस्य । म
हाहवेनामनिशम्य सद्यस्त्रयं रिपूणां विगल्य काण्डे ॥ तस्यात्मजो जा
गृतदीर्घकीर्तिरात्तर्त्तहारिहरिविश्रुतधामधारी । भूयः सृष्टिष्व
पकृतानुकृतिः कतनः श्रीकृष्णराज इति गोत्रमणिर्बभूव ॥ यं मन्त्रशास
तिमहीश्वरपोद्विजानां वैतानधूमनिवहैः परिकर्षराणि । संध्यासु सौधशिख
राणि विलोक्य केकाः कुर्वैति वेश्मशिखिनो जलदागमोक्ताः ॥ यस्य द्विजा
जनाः शांताः शांतिवाचन वरिणा । प्रसहगुल्फदधेन जनश्वरतिमंदि
रे ॥ तस्य प्रभिन्नकरटच्युतदानदन्तिदन्तप्रहाररुचिरोल्लिखितां
सपीठः । क्षमापः क्षितौ क्षपितशत्रुरभूत्तनूजः सद्राष्ट्रकूटकनकाद्विरिवेन्द्रराजः ।
पूरिताशाशुचिर्ध्वस्तावृत्तिर्ज्योत्स्नेवमातृतः । राक्षोसोमान्वयीतस्य पितृत श्व-
शालुव्रजजा ॥

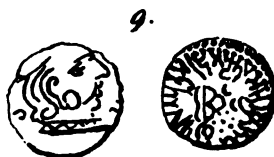
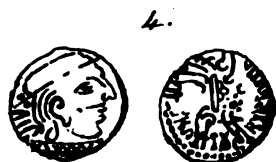
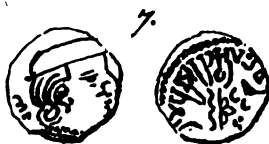
श्रीमद्युवतिगणानां साध्वीनामापनापदं । रक्षणेभरणेलोकपारिचारनिरापदं ।
सनयंतनयंतस्यासलेभेभृदुत्तमः । नीतावेमिश्राशेषजगतः पालितायति ॥
ध्वस्ततेजसिधामोघप्रद्वेलितदिगन्तरे । श्रीदन्तिदुर्गराजस्य स्वकुलाभोज
भास्करः ॥

यस्याजौ राजसिंहस्य विव्रस्तावैरिवारणाः । सलज्जास्तंभमुन्मूल्य ज्ञायते-
क्वापिनो गताः

॥ साष्टालकानि दुर्गाणि हृदयैः सह विद्विषां । पतन्ति यत्प्रतापोयकोपां
कुरसमुद्रकैः ॥ महीमहानदीरेवारो धोभित्तिविदारणं । लोकाविलोक्य
न्युचैः कृतं यज्जयकुंजरैः ॥ मातृभक्तिः प्रतिग्रामं ग्रामलक्षचतुष्टये । ददत्या
भूपदानानियस्य मात्राप्रकाशिता ॥ सभूविभेदमगृहीतविधौ तश्च मन्त्रात्
मप्रणिहितान्नमपेतयत्नात् ॥ यो बलभंसपदिदं डलकेनाजित्वा राजधिरा
जरमेश्वरतामुपैति ॥ कांचीशकेरलनराधिपचोलाज्यश्रीहर्षश्चटवि

भेदविधानदक्षं । कर्णाटकं बलमनंतमजे परार्थैर्भृत्यैः क्रियद्विरपियः
 सहसाजिगाय । सचपृथिवीवल्लभमहाराजाधिराजपरमेश्वरपरम
 भट्टारकखड्गाधाराकर्मादिं सिदुर्गाराजदेवः सर्वनेवराष्ट्रपतिविष
 यपतिग्रामकूटांयथार्हप्रतिपत्त्याप्तापयस्तुवः संविदितं यथा
 पंचसप्तत्यधिकशककालसंवत्सरशतषट्ककेव्यतीते संवत् ८११ पोह
 रिकायां मावमासरथसप्तम्यां तुलापुरुषस्थिते मातापित्रोरा
 त्मनश्चपुण्ययज्ञोभिवृध्यैकोप्परपंचशतभुक्तयन्तर्गतकरं
 दिपदे जफितदे उल्लाटनामग्रामः करहाटकवास्तव्यः ब्रह्मचस
 ब्रह्मधारिणे वसिष्ठगोत्राय भृष्टत्रिविक्रमपौत्राय कृष्णभट्टपुत्रनाराय
 णभट्टाय वेदे वेदांगपारगाय अभिहोत्रबलिचरूपवर्तननिमित्तं
 भूयच्छिद्रन्यायेन उदकपूर्वोदत्तः सचाचाटभट्टप्रवेश्यः भ
 सन्नरप्रवृत्तिविनिवृत्ताचारः सर्वात्राधापरिहारेणास्मद्वंश्यै
 रन्यैर्वाप्रतिपालनीयोनृपतिभिः यस्य च पूर्वतः नवायलेव
 ल्हीग्रामः दक्षिणतः पारगोवाब्राह्मणग्रामः पश्चिमतः हिगुर्वाडें
 ग्रामः उत्तरतः अहतवाटग्रामः एवं चतुराघाटलक्षितो ग्रामः सवृ
 क्षमूलकुलस्वसीमापर्यंतसिंध्यादिहिरण्यायः सदंडदोषदसा
 परायथासमवित्तभागभागकरत्तर्वात्यत्वादिसहितोदत्तः
 अस्मभुंजतभुंजनाय तस्य कृषतः कर्षापयतस्य धारकेन चित्परिर
 क्षनाकार्या ॥ उक्तभगवत्ताव्यासेन स्वदत्तां परदत्तां बायोहरे तव
 सुंधरां । षष्टिवर्षसहस्राणि विष्टायां जायते कृमिः ॥ यः सं
 पङ्क्तिरनुत्पद्यतः परहितव्यासंगिनो नीयस्यधीः । यस्तत्राप्युपकर्तुमि
 च्छति महत्तमस्य काष्ठाधने । तेनेन्द्रेण नरेन्द्रवृन्दसहितश्रीद
 न्तिवर्मानयाप्रीत्येदं लिखितं तदुन्नतयशः प्रोद्भासनं शासनं ॥

भेदविधानदक्षं । कर्णाटकं बलमनंतमजे परमैर्भृत्यैः क्रियाद्विरपियः
 सहसाजिगाय । सत्तृपुथिवीवल्लभमहाराजाधिराजपरमेश्वरपरम
 भट्टारकखड्गाधारार्कश्रद्धासिद्गुगाराजदेवः सर्वानेवराष्ट्रपतिविष
 यपतिग्रामकूटांयथार्हप्रतिपत्त्यापयत्यस्तुवः संविदितं यथा
 पंचसप्तत्यधिकशककालसंवत्सरशतषट्ककेव्यतीते संवत् ८११ पोह
 रिकायां मावमासरथसप्तम्यां तुलापुरुषस्थिते मातापित्रोरा
 त्मनश्चपुण्ययज्ञोभिवृद्धये कोप्परपंचशतभुक्त्यन्तर्गतकरं
 दिपदे जफितदे उल्लावाटनामग्रामः करहाटकवास्तव्यः ब्रह्मचस
 ब्रह्मधारिणे वसिष्ठगोत्राय भद्रत्रिविक्रमपौत्राय कृष्णभट्टपुत्रनाराय
 णभट्टाय वेदवेदांगपारगाय अभिहोत्रबलिचरुप्रवर्तननिमित्तं
 भूयच्छिद्रन्यायेन उदकपूर्वोदत्तः स चाचाटभट्टप्रवेश्यः अ
 सन्नरप्रवृत्तिविनिवृत्ताचारः सर्वात्राधापरिहारेणास्मद्वंश्यै
 रन्यैर्वाप्रतिपालनीयो नृपतिभिः यस्य च पूर्वतः नवायलेव
 ल्हीग्रामः दक्षिणतः पारगोवाब्राह्मणग्रामः पश्चिमतः हिगुर्वाडें
 ग्रामः उत्तरतः अहतवाटग्रामः एवं चतुराघाटलक्षितो ग्रामः सवृ
 क्षमूलकुलस्वसीमापर्यंतसिंध्यादिहिरण्यायः सदंडदोषदसा
 पराययथासमवित्तभागभागकरत्तर्वात्पत्यादिसहितोदत्तः
 अस्य भुंजत भुंजनाय तस्य कृषतः कर्षापयतस्य धारकेन चित्परिर
 क्षनाकार्यः ॥ उक्तभगवत्ताव्यासेन स्वदत्तां परदत्तां बायोहरेतव
 सुंधरां । षष्टिवर्षसहस्राणि विष्टायां जायते कृमिः ॥ यः सं
 पङ्क्तिरनुसत्ततः परहितव्यासंगिनो नीयस्यधीः । यस्तत्राप्युपकृत्वमि
 च्छातिमहत्पुण्यस्य काष्ठाधने । तेनेन्द्रेण नरेन्द्रवृन्दसहितश्रीद
 न्तिवर्मान्नयाप्रीत्येदं लिखितं तदुन्नतयज्ञः प्रोद्धासनं शासनं ॥



ARTICLE III.—*Some remarks on specimens of Saurarâshtra Coins, lately found at the village of Shirawl, near Junîr.*

By the Rev. John Stevenson D. D.

To H. J. Carter, Esq.

Officiating Secretary of the Asiatic Society.

MY DEAR SIR,—At Dr. Bird's desire I have the pleasure of sending you the accompanying specimens of the coins of the Regal Satraps of Saurarâshtra, found near Junîr in August last to the number of 400, that you may have fac-similes of them taken for the Journal of the Society. I shall number them according to Mr. Prinsep's system, not disturbing his figures, but by the sign +, showing which of the names in his list the one in question should, I suppose, precede.

The most ancient of our coins, I mark + 1, as it is a new one, and precedes I conceive the whole of Mr. Prinsep's series.* It bears the following legend on the obverse:

Rājna Mahakshatrapasa Iswaradattasa [Bala] Putrasa.

The letters in this legend are well formed, and all very distinct except the two corresponding to the word put in brackets, and of which there may be some doubt. There is no doubt however of the name of the father occupying this place, and that he was a mere private individual. There are rudiments of a date and of Greek letters, as is usual in these coins, circling a bold and well executed head, but all too indistinct to furnish any clue to their import. It would seem that this sovereign had been commissioned to exercise a delegated royalty in Western India, but did not transmit his authority to any one of his family, as none of his descendants appear in the list of Royal Satraps.

1. The next is number 1 of Prinsep's list.

The legend on the obverse is,

Rājna Kshatra[pasa Rudra] Sakasa Swami Jina Dāma Putrasa.

The name indeed of the Raja is blotted out, but that of the father in this instance, is sufficient to mark it out as the coin in question. The remarkable thing in this coin however is, the distinctness of the Greek let-

* No 3 of Plate xxiv.

ters around the face, and which as nearly as I can transcribe them are as follows :

Α Ι Ο Λ V I I I V I I I. The first eight of these letters, I read *Διολυντις*. The last with the two fragments I suppose belong to a new word, of which too little remains to found any conjecture upon. If I am right in reference to the first word, it will be a tolerable translation into Greek of *Rudra*, or even of *Rudra Saha*, supposing *Dio* as in *Dionysius* &c. to be the name of Jupiter, and the other element meaning, like *Rudra*, the causer of grief.

2. The legend on the obverse of this coin, belonging to No 2 of *Prinsep's* sovereigns, is entire and as follows :

Rājna Kshatrapasa Aga Dāmna Rājna Kshatrapasa Rudra Saha Putrasa.

This sovereign was the son of the preceding. It is remarkable in his coins that the execution is altogether inferior to the preceding, and to one or two that follow in the series. There are rudiments of a date just behind the head, but none of Greek letters.

4. The fourth coin in our collection is that of *Vijaya*. Of his father *Dāma Saha*, no coins have yet been found. The legend on this coin is not very distinct in some places, but enough of it remains to remove all doubt. It is,

Rājna Maha Kshatrapasa Vijaya Sahasa Rājna Maha Kshatrapasa Dāma Saha Putrasa.

Behind the head, the following old numerals are to be read ३१४ which probably mean 314.

+ 5. This is a new coin. Besides the silver coin accompanying, I have a bronze one of the same monarch on which the name is quite distinct, though the father's is obliterated. On this coin the name is obscure in the letters ΧΕ [मृ]. The legend is,

Rājna Kshatrapasa Dāmajatasriyah Rājna Maha Kshatrapasa Dama Saha Putrasa.

The name is thus written *ΧΧΕ* *Ε* *Ζ* *Ω* : and in the Nominative case will be,

Dāmujāta Srih.

Of Prinsep's No 5, no coins are in my possession.

6. Is a coin of the great

Rudra Saha.

The legend is

*Rājna Mahakshatrapasa Rudra Sahasa Rājna Mahakshatrapasa
Vira Dāmna Putrasa.*

Behind the head are the numbers १०३ which without much doubt mean 381; or if not, 385.

7. This coin was struck by a brother of the last named sovereign. The legend is partly defaced, but enough remains to identify it. It is

*Rājna Kshatrapasa Visva [Sahasa Rājna Maha Kshatrapasa Vira]
Dāmna Putrasa.*

+8. This is also a new coin. The legend of which is

*Rājna Kshatrapasa Visva Sahasa Rājna Maha Kshatrapasa Rudra
Saha Putrasa.*

This sovereign was therefore a nephew of the last mentioned king, and brother to No. +8 of Mr. Prinsep's list. The letters are very distinct, and this sovereign is not to be confounded with his predecessor or successor of the same name.

9. I take this to be a coin of Mr. Prinsep's *Atri Dāma*; the reading on our coin however is clearly *Bhatri Dāma*, and Mr. Prinsep mentions this name as that of the father of the next in the series at p. 355 of the Asiatic Journal vol. VII. The two letters ॠ and ॡ are so like that they might easily have been confounded. The inscription is

*Rājna Maha Kshatrapasa Bhatri Dāmna Rājna Maha Kshatrapasa
Rudra Saha Putrasa.*

10. This is the last coin in our series, and has inscribed on it

[*Rājna Māha Kshatrapasa*] *Visva Sahasa Rājna Māha Kshatrapasa Bhatrī Dāmna Putrasa.*

No coin of a later date than this last has been found at Junir, and most likely the collection of coins was made in the reign of this monarch. The principal historic fact of interest brought to light by this discovery is, that the country as far as Junir was governed by rulers, who were either at that time dependent on or had previously owned allegiance to the Grecian monarchs of Bactria; as we could not otherwise account for the current money of the realm bearing an inscription in Greek letters. The subjection, however, may in later times have been merely nominal. I think also we are quite warranted to infer that the art of coining metal was borrowed from the Greeks. The oldest coins, when we may suppose the Grecian connection to have been the closest, are well executed, and the more modern are of a much inferior type. The art of coining decayed with the decay of the Grecian connection. Let patriotic Hindus consider the lesson such a fact teaches.

I remain, Dear Sir, yours very faithfully,
Bombay, 10th March, 1847. J. STEVENSON.

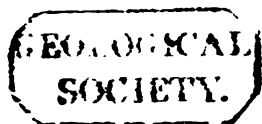
ARTICLE IV.—*A description of the Frankincense Tree of Arabia, with remarks on the Misplacement of the "Libanophorous Region" in Ptolemy's Geography.* By Assistant Surgeon H. J. Carter, Bombay Establishment.

There is something peculiarly interesting in the history of the "Frankincense Tree," from the frequent allusions made to it in the Holy Scriptures. From the earliest periods of the Jewish history, its produce has formed one of the ingredients in their offerings of incense, and it still forms the "sweet perfume" of our catholic churches at the present day.

Whether we consider the description of the Arabian Frankincense Tree in a botanical or in a geographical point of view, both are alike interesting, for the tree, though described, has I believe never been identified, and the exact limits of that part of Arabia to which it is indigenous, viz. the *Libanophorous Region* of Ptolemy, have never been clearly defined.



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They were subjects of much interest to the ancients, but sought after with little success; even Kings may be enumerated among others, who have personally engaged themselves in endeavouring to obtain a faithful description of the Frankincense Tree, and in discovering that part of the peninsula of Arabia, to which it is exclusively indigenous. Antigonus had a branch of it purposely brought to him for his inspection; * the Ptolemies planted it in Egypt, and are said to have watched it with the greatest care; † King Juba wrote an account of it to C. Cæsar, the adopted son of Augustus; ‡ and the latter sent Ælius Gallus to Arabia, at the head of an army consisting of ten thousand Romans, besides Jews and Nabatæans, there to discover “after the country of gold, that of the frankincense tree.” This even did not succeed, for when Ælius Gallus was within two days march of the Frankincense region, his army became so distressed for want of water, that he was compelled to abandon his pursuit, and to make as sudden and hasty a retreat, as his advance appears to have been slow and deliberate. §

Theophrastus, after relating all he had collected on the subject, which is wonderfully correct so far as it goes, concludes by saying, “up to this time this is all we have learnt of it,” meaning the Frankincense Tree. ||

Pliny, in the following extract from the quaint but faithful translation of Dr Holland, writes, “we have waged war in Arabia, and our Roman army have entered a great way into that country. C. Cæsar, the adopted son of Augustus, won great honour and glory from thence; and yet verily to my knowledge there was never any Latin Author that hath put down in writing the form and fashion of the tree that beareth incense. ¶” From Pliny downwards, the subject appears to have excited less interest, and to have been almost wholly lost sight of, until the Danish Expedition to Arabia took place, when one of the “questions proposed by Michaelis to Niebuhr,” was, “to determine the site and description of the Frankincense Tree.”** It was however unanswered, for Niebuhr writes, “We could learn nothing of the tree from which incense distils, and Mr Forskael does not mention it.”††

* Theophrast. Hist. Plant. L. ix. c. iv. † Pliny Hist. Nat. L. xii c. xiv.

‡ Idem. § Strabo Exp. Ælius Gallus L. xvi. || Theophrast. Op. cit.

¶ Pliny B. xiv c. xiv. Eng. Trans. Holland. ** Niebuhr Descrip. de l'Arab. T. iv. Quest. xxix. French Trans. †† Niebuhr Op. cit.

Rumph * and Stackhouse † appear to have been acquainted with it, Roxburgh ‡ first described it, and Colebrooke § gave a drawing and an account of it in the Asiatic Researches, relating the manner in which Dr. Turnbull, then Surgeon to the Residency at Nagpoor, satisfactorily identified the gum of the Indian Frankincense Tree, with that called Olibanum. The produce therefore is determined, and it only remained to identify, if possible, the Arabian species, with that described and figured by Roxburgh and Colebrooke. With this view, I made a sketch|| of a branch in flower that was selected from many others which were brought to me on the 30th May 1846, at Rakheote, a small village close to Ras Sajar, on the southeast coast of Arabia, and as it appears to me to be identical with the Indian species, described and named by Roxburgh, *Boswellia serata*, I cannot do better, than add to it his description, and the accompanying observations of Mr. Colebrooke on the diversity in its fructification, almost all of which are in every way applicable to the Arabian tree.

Boswellia Serata. Roxb.

“Gen. Char. Calyx beneath, 5 toothed. Corol. 5 petaled. Nectary a crenulated, fleshy cup, surrounding the lower part of the germ, with stamens inserted on its outside. Capsule 3-sided, 3-celled, 3-valved. Seeds solitary membrane-winged.

“Spec. Char. Leaves pinnate, leaflets serate downy. Racemes simple, axillary. Petals ovate. Filaments inserted on the exterior margin of the nectary.

“A large tree, a native of the mountains of India. A most fragrant resin is collected from wounds in the bark, &c.

“Leaves crowded about the extremities of the branchlets, pinnate with a single terminal one.

“Leaflets sessile, sometimes opposite, sometimes alternate, in general about 10 pair oblong, obtuse, serate, villous; length about an inch or an inch and a half.

* Herbar. Amboin. Par. 1. L. iii. c. iii. † Ext. Bruc. p. 19. t. 3 Wight and Arnott. ‡ Flora. Ind. 2. p. 383. § As. Res. 9. p. 377. || Vide fac-simile Plate xxiii.

"Petioles round, downy.

"Racemes axillary, simple, shorter than the leaves, downy.

"Bracts minute.

"Flowers numerous, very pale, pink, small.

"Calyx five lobed, downy. (Perianth 1-leaved 5-toothed) Corol. petals five oblong expanding, downy on the outside, and considerably longer than the stamens.

"Nectary a fleshy crenulated cup, (coloured and adhering to the calyx) surrounding the lower two thirds of the germ.

"Stamens: Filaments ten, alternately shorter, inserted on the outer edge of the mouth of the nectary. Anthers oblong.

"Pistil: Germ above, ovate. Style cylindric, stigma of three pretty large lobes.

"Pericarp: Capsule oblong, three sided, three celled, three-valved, size of an olive, smooth.

"Seed solitary, winged, broad, cordate at the base, deeply emarginate, point long and slender, and by it inserted into the apex of the valve of the capsule to which it belongs."*

Variations in the fructification, &c.

"The fructification is remarkably diversified on the same plant. I have found even on the same raceme, flowers in which the teeth or lobes of the calyx varied from 4 to 10. The number was generally 5, sometimes 6, rarely 7, more rarely 4, and very rarely 10. Petals as many as the divisions of the calyx; stamens twice as many; capsule generally 3-sided, sometimes 4, rarely 5-sided, with as many seeds and as many valves. Seeds generally solitary."† ‡

* As. Res. 9. p. 379. † Idem.

‡ Since this paper was presented to the Society I have to a certain extent been able to compare a specimen of the Frankincense Tree which I brought from Arabia, with the *Boswellia serata* now in the Horticultural Garden at Bombay: and, though I have no reason to doubt its genus, yet there are some points, in which it slightly differs from *B. serata* which I wish to notice, in case those better acquainted with both the Indian species than myself, may consider them sufficiently specific to entitle the Arabian tree to a separate denomination.

In the Arabian tree, the leaflets are oval, of a deep green colour, glossy and sparsely-pilose; (in both it and the specimen of *B. serata* mentioned, they are crenate-serated and wavy); they average six pairs, an inch in length, and with the confluence of the terminal leaflets amounting to double, and frequently

In addition to India, and that part of Arabia which I shall presently point out, the Frankincense Tree is found in great abundance in Eastern Africa, on the limestone mountains which extend westward from Cape Gardafui through the country of the Somalis; * I have seen a living specimen in foliage brought from thence, and large quantities of the gum which is imported at Makalla for re-exportation to India: both the produce and the tree of Africa and Arabia appear to be the same, and I have no doubt from Rumph's description of the *Canarium hirsutum* in Amboyna, we may also safely extend its geographical distribution eastward to the Molucca Islands. †

Ibia Batuta calls the tree *al kundooroo*. ‡ الكندر

The gum is called by the Arabs *laban*. لبان

The Maharas call the tree *maghrayt d'sheehaz*, مغرت ذ شبحز and the gum *sheehaz* شبحز; but the latter are local terms, which are only generally understood among the inhabitants of that part of Arabia in which the tree grows.

The gum is procured by making longitudinal incisions through the bark, in the months of May and December, when the cuticle glistens with intumescence from the distended state of the parts beneath: the operation is simple, and requires no skill on the part of the operator. On its first appearance, the gum comes forth white as milk, and according to its degree of fluidity, finds its way to the ground, or concretes on the branch near the place from which it first issued, from whence it is collected by men and boys, employed to look after the trees by the different families who possess the land in which they grow.

It is curious to observe how correct the ancients were in many of their remarks concerning the Frankincense Tree, and in their description

treble the size of any of the others. The pericarp is pear-shaped and about half the size of an olive; indeed, the tree throughout appears to average half the size of the *B. serata*. The new cuticle is of a bright hazel brown, color, peeling off in large deciduous flakes from the bases of the principal branches and the trunk, and none but the oldest portions are cinereous. The racemes are fascicled, and as long as the leaves; in Dr. Roxburgh's description they are simple and shorter than the leaves.—H. I. C.

* Visit to the Frankincense country by Capt. Kempthorne, 1. N. Jour. Geo. Soc. Bombay, 1841 to 1844 p. 402.—Carless's Chart of the Coast near Gardafui. †Rumph Op. et loc. cit. ‡Ibin Batuta printed char. with Eng. Trans. by Lee. p. 16

of that part of Arabia in which it grew; curious, because in our days, no one thinks it worth his while, to go beyond the bare coast-line of Southern Arabia.

Theophrastus * and Pliny † have written, that it was only to be found in a particular part of Arabia, and that the name of the country in which it grew was *Saba*, the capital *Sabota*, which was eight days journey from the *thuriferous region*. The tree was about five cubits high and much branched, with leaves like those of the *Acacia*, and of an herbaceous green colour;—a description almost sufficient to enable one at the present day, to fix immediately upon the tree, in that part of Arabia where it grows. It grew on the mountains, and in the valleys beneath, and from the former small streams flowed into the plains. The soil was sub-argillaceous, sandy, and of a red colour inclining to white. To obtain the gum, slits were made in the bark, but no portion was cut away; that part of the incense which adhered to the tree when taken off, carried with it portions of the bark. The mountains and woods where it grew, were divided among the Sabians, and there was a strict faith observed towards each other, respecting the parts they severally possessed. — But for the disappearance of the Sabians and their towns, I could not offer a more correct description.

They relate also, that the incense was transported on the backs of camels, in bags and packages, marked with the owner's name and the price; these were deposited in the temple of the sun at *Saba*, ‡ and the whole transaction was held so sacred that they were left unguarded, and no one entertained the slightest apprehension of being robbed of the smallest portion of his gum; merchants arriving there paid the prices marked on the packages, one third of which was taken by the priest for the god of the temple, and the remainder was left for the people to whom the frankincense belonged. Arrian writes, that the whole of the frankincense of the *Sachilitie Sinus* was collected into one great heap, which, from its sacred nature, received safe protection from the gods; neither could any one secretly, or openly, take away a grain without the permission of the king, nor a ship laden with it leave the port against the will of the gods. §

Theophrastus, Pliny, and Arrian, however, differ a little in this unim-

* Theophrast. Op. cit. † Pliny Op. cit. ‡ “In urbe Sabia” Salmasius T. 1. p. 355. A. § Arrian. Perip. Max. Esyth.

portant detail; that it was carried on the backs of camels holds good to the present day, simply because in those parts there has never been any other way of transporting baggage, but the Sabian religion having passed away, there is now unfortunately for the "lords of the soil," no longer any mystery connected either with the tree, or its produce; and the gum, as it is collected, is brought to the nearest port, and finds no other outlet at the present time, but on the coast. Dear as it appears to have been in Pliny's time, when those who were employed in refining it at Alexandria entered upon their occupation "hoodwinked and naked as they were born", * that they might neither see to covet, or have power to conceal the smallest portion of it about their persons; it is now so cheap that it is difficult, even in the country where it is produced, to obtain a sale for it at any price.

The insalubrity of that part of Arabia in which the Frankincense Tree grows, is also fabulous. Diodorus Siculus said the country was infested with the most venomous snakes; † Arrian, that it was so unhealthy that not only the laborers who lived in it, and who were compelled from want of food to engage themselves in the employment of collecting the gum, died of the pest peculiar to the locality, but, that even those who sailed along that coast were affected by the same unhealthy influence. ‡ Probably the Sabians themselves raised these reports, from a desire to intimidate foreigners, who, from other motives than those of mere curiosity, might have wished to visit their country, then so remarkable for the value of its produce. In whatever way it originated, it is incorrect, inasmuch as the climate of the mountainous part of Arabia on which the Frankincense Tree grows, is most invigorating and healthy; it is the abode of the Bedouins of the district, and the resort of the lowland people of the coast during the hot season.

GEOGRAPHICAL POSITION.

In pointing out the position of the Frankincense Region of Arabia I shall dwell on the subject, more for its geographical than for its botanical interest.



* Pliny. Holland's Trans. loc. cit. † Diodorus Siculus. Bibl. Hist. T. 1. L. iii. p. 214. Wessling. ‡ Arrian Op. cit.

Those who have attempted to compare the ancient with the modern geography of Arabia, are aware of the difficulty that exists, from the scantiness of detail in the former, of identifying names, localities, and places, mentioned by the ancients, with those of the present day; and, on this account, it is not a little gratifying, occasionally to meet with such aids as enable us to do this, without having to recur to the flexibility of the Arabic language, to anagrams and transpositions, or to a train of reasoning open to all kinds of objections. I allude in the present instance more particularly to the limits of the frankincense region, after pointing out which I shall endeavour to shew by their undeniable evidence, that Ptolemy's *Libanophorous region* is misplaced, and, by assigning to it its real position, hope at some future period, (assisted by other features equally imperishable and unalterable as those of the frankincense country,) still further to elucidate the ancient geography of the southeastern coast of Arabia.

The limits of the Frankincense Region of Arabia, situated on its southeastern coast, about midway between Ras-al-Had and Cape Aden, have, so far as it has been in my power, been ascertained in the following way. Passing along the coast from the northeast, I have by direct information, and by personal observation of the nature of the country, been able to satisfactorily determine the point, whereat the frankincense tree is first met with, the latitude of which, from the direction of the coast, at once gives its northern and eastern limits: while its extent westward has been ascertained, by carefully enquiring at each town along the coast in that direction, what quantity of frankincense is annually brought to it from the interior, until arriving at that place where the produce of the Arabian tree is never seen. In the same way, by the quantity of frankincense brought to the several towns from the interior, it is easy to determine opposite to what part of the coast the tree most abounds, for the gum is so cheap, that to be worth any thing to those who collect it, it must be brought by direct route to the coast from the place where it is gathered.

Coming then from the northeast, we first meet with the frankincense tree on the Sabhan mountains in latitude $17^{\circ} 30' N.$, and longitude $55^{\circ} 23' E.$, where the desert ends, and the wooded mountainous region commences; and in following the coast, which runs southwest, we find the quantity of frankincense exported from the different towns, gradually diminishing after the Bay of Al Kammar, until we arrive at Makalla, from whence none is exported from the interior of Arabia, and but little used

except what is brought from the African coast opposite that town. By the same inquiry we learn, that the produce of the Arabian tree, is exported in largest quantities, from places on that part of the coast which intervene between the latitude and longitude mentioned, and the town of Damkote, in the Bay of Al Kammar, in $52^{\circ} 47'$ east longitude.

Between these two points, the trees are congregated in two distinct localities; on the summits and sides of the highest range of mountains near the coast, and on the plain between them and the sea: the former is called the *Nejdee*  or high land, the latter the *Sahil*  or plain on the coast. *

The *Nejd* or *Nejdee*, is about two days journey from the shore, it is the most elevated portion of the great limestone formation of this coast, which from a height of five thousand feet, here descends in sudden and lofty steps upon the Arabian Sea. To get to it you first cross the *Sahil* already mentioned, then ascend a minor range which is covered with long grass and trees, and after passing a less fertile region called the *Gāthān*, at last arrive at the *Nejdee*, where there is no grass, and but few trees besides those which produce the frankincense. The soil is red and sub-argillaceous, and in consequence of its scarcity, the trees are generally found growing out of the crevices of the limestone rock. It is from this part that the frankincense is chiefly brought; and as I have before said, that the largest quantities of it, are exported from the different towns on the coast between longitudes of $52^{\circ} 47'$ and $55^{\circ} 23'$ E., so the *Nejdee* lies behind these towns and between these points of longitude.

The other locality, viz. the *Sahil*, lies in front of that last mentioned; it is the plain between the base of the mountains and the sea, and is bounded on the east by the mountainous promontory of Ras Noos, and on the west by that of Ras Sajar. The frankincense trees are mostly

* Theophrastus says (Op. cit.) that those who went to see the Frankincense Trees, saw also the Myrrh Trees at the same time; this might have been the case in the Somali country where I believe it to be a fact, but not in Arabia; for where the frankincense tree exists in the latter country, the myrrh tree is unknown and *vice versa*; thence the ancient distinction of *Smyrnophorous* and *Libanophorous* regions. There is a tree called by the Bedouins *Akor*, which yields *Mogl*, a gum slightly resembling myrrh in appearance and taste, but not in its perfume which is disagreeable, and which the Persians and Arabs use as a fumigation in the cure of Hæmorrhoids: this grows side by side with the frankincense tree and is equally plentiful.—H. I. C.

congregated towards each extremity of it, viz. about Marbat, and in the neighbourhood of Bandar Resoot, where they are found at the base and on the sides of the mountains, about five miles from the shore, and I believe they are also met with in a similar position near Hasek. The quantity of frankincense that is collected from them is proportioned to their number, which bears no comparison with the myriads that are spread over the *Nejdee*. The soil of the *Sahil* only differs from that on the tops of the mountains, in being richer and more abundant; collections of fresh water are common in most parts of it, and among the mountains above are rivulets and reservoirs, truly said by Theophrastus "not to be found elsewhere."—* In no part of the southeastern coast of Arabia, is there such an abundance of fresh water, such good land, such rich pasture, and such a variety of plants, shrubs, and trees, as in the Frankincense Region. It may fairly be said, to be the favoured part, the garden of Southern Arabia, while both east and west of it, all is characterized by a cheerless, dreary, arid waste.

So well as the Frankincense Region of Arabia is marked by its comparative fertility, in addition to its having ever yielded large quantities of an incense, that, from the remotest antiquity has been considered by the heathen nations of the eastern world as an essential in their religious ceremonies, it is not surprising that it should have gained for itself the appropriate designation of the *Libanophorous region*, under which appellation we meet with it in the geography of the ancients. But, as they do not appear to have been agreed as to its position, and their Commentators have been unaided by the means which we now possess to adjust their difference, I shall in conclusion, offer a few observations on its real position, compared with that which some of them would appear to have assigned to it.

On looking at Mercator's map of Ptolemy's Arabia, after what I have written, the misplacement of the *Libanophorous region*, becomes obvious; instead of being situated in the central part of the southeast coast of Arabia, we find it carried up into the province of Oman, upwards of four hundred miles from its real position, to a part of Arabia where, from the late Lieut. Wellsted's personal experience, † and my own repeated enquiries of the inhabitants of that province from north to south, I am satisfied the tree does not exist. On the other hand, Arrian, or the au-

* Theophrast. Op. cit. † Wellsted's Trav. in Arab. V. I. p 285.

thor of the Periplus, * the most intelligible of all the ancient Geographers, in describing the southeastern coast of Arabia, advancing eastward, commences his *Libanophorous region*, at the *Syagrian Promontory*, (Ras Fartak,) which, in his general description, is sufficiently correct to shew that he was perfectly aware of its real position; yet, accurate as Arrian is in this instance, it is not more easy to comprehend why he should have said "adjoining Syagros" is a bay which runs deep into the mainland of *Oman*, than that Ptolemy should have transported the *Libanophorous region* across the great desert of Ahkaf, to that part of Arabia, which alone bears the name of Oman at the present day. Those who have witnessed the relative position of the Akhdthoor mountains of Oman in the northeast, and the abrupt commencement of the Nejdee or the Sabhan mountains on the southeast coast of Arabia, with the vast expanse of desert between them, cannot well conceive how the oversight could have happened, and can come to no other conclusion, than that both Ptolemy and Arrian must have been misinformed, or have misunderstood their informants; the former as to the position of the *Libanophorous region*, the latter as to the extent of the province of *Oman*; unless we suppose, that formerly the province of Oman extended further to the westward than it does at the present day, when both Ptolemy and Arrian would be right as to the country, but the former must still remain wrong in the position of the *Libanophorous region*. In whatever way we conceive the error to have originated, or attempt to solve the difficulty, we must allow, that Ptolemy's *Libanophorous region* has been misplaced, and that the position given to it by the Author of the Periplus is the correct one.

ARTICLE V.—On two Balsam-trees (*Balsamodendra*) from Sindh. By Assistant Surgeon J. E. Stocks, Vaccinator in Sindh.

1. *The Googul Balsam-tree.*

The gum-resin Googul. (گوگل) has had its synonyms traced out by Sprengel (Hist. Rei Herbariæ I. 272), followed by Ainslie (*Materia Indica* I. 29), and Royle (Ill. Botany Himal. Mount. p. 176), and is the Mukul (مقل) of the Persians and Arabians, and the Bdellium

* Perip. Mar. Eryth.



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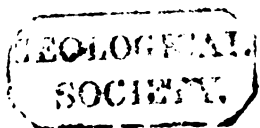
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Amyris Agallocha.— Hort. Beng. p. 28.

Protium sp. *Balsamodendron*.— W. and A. Prod. p. 96.

Commiphora Madagascarensis.— Lindl. Fl. Med. p. 173, and



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Sprenge (*Indica* I. 29), and Royle (Ill. Botany Himal. Mount. p. 176), and is the Mukul (مقل) of the Persians and Arabians, and the Bdeium

* Perip. Mar. Eryth.

(βδέλλιον) of Dioscorides and (?) Genesis 2. 12; Numbers 11. 7.

There has always been, however, some degree of uncertainty about the tree from which it is taken.

It is unnecessary to dwell on the idea of Koempfer (*Amoenitates*, p. 668) that it is produced by the *Borassus flabelliformis*, or of Matthioli, that it comes from the *Chamærops humilis*. Moreover it has no connection with the Googul of the Coromandel Coast, which is the Koonder gum from the *Boswellia glabra* (Ainslie I. 136). Virey, (*Hist. Nat. des Medicamens* p. 291) first suggested that *Bdellium* came from an *Amyris*, the Niotoutt of Adanson, Voy. 162. *Heudelotia Africana*, *Flora Senegambiæ* 1. 150. *Balsamodendron Africanum*, Arnott in *Annals Nat. Hist.* 3. 87. It is probable that African *Bdellium* is yielded by this shrub, which is a closely allied species to the Indian Googul-tree. This tree Roxburgh had growing in the Calcutta Garden, and described in the *Flora Indica* 2. 244, under the name of *Amyris Commiphora*, with the Sanscrit synonym of Googula; but he was not aware of its yielding a bazaar-gum.

In the *Hortus Bengalensis* it appears as the *Amyris Agallocha*, which was probably the name finally adopted by Roxburgh, from some suspicion of the distinctness of Jacquin's plant, the supposed identity of which had suggested the specific name in the *Flora Indica*.

Royle had this plant in the Saharunpore Garden, and was informed that it produced the Googul gum-resin, but recommends (*Him. Botany*, and more recently in his work on *Materia Medica Lond.* 1847) that the subject should be followed up by those who have the opportunity of examining the flowers and collecting the gum.

The tree is abundant on rocky ground in Sindh, about Kurrachee, Garrah, Tattah, Jerrok, &c. in short wherever the limestone formation extends. It is therefore, most probably, very common in Beloochistan and up the Persian Gulph, and is one of the plants connecting the Syrian and Indian Floras.

BALSAMODENDRON ROXBURGHII (Arnott).

Amyris Commiphora.—Rox. Fl. Ind. 2. 244.

Amyris Agallocha.—Hort. Beng. p. 28.

Protium sp. *Balsamodendron*.—W. and A. Prod. p. 96.

Commiphora Madagascarensis.—Lindl. Fl. Med. p. 173, and

O' Shaughnessy, Beng. Disp. p. 287, non (?) Iacq. Hort. Schön
2. 66. t. 247.

Balsamodendron Roxburghii.— Arn. Ann. Nat. Hist. 3. 86, and
Wight Illust. 1. 185.

Balsamodendron Agallocha.— Voight. Hort. Subarb. Calcutt. p. 150.

A small tree 4 to 6 feet high, or more generally a stunted bush, with thick branches spreading on all sides. In barren and rocky situations the gnarled limbs spread from the crown along the surface of the rock. Branches knotty and crooked, with the ash-coloured bark peeling off in flakes; the sub-terminal ones short and spiniform, with buds and secondary spines on them.—Leaves and flowers collected at the end of short stunted buds, which finally develope into spines, or become young soft shoots, on which the leaves are arranged alternately.

Leaves smooth and shining, obovate, almost sessile, shallowly toothed anteriorly, the tapering base entire; in thriving plants and luxuriant shoots inciso-serrate, cuneate-obovate or oval-acute, with a longer stalk from which spring one, or more generally two, lateral leaflets, which are sometimes minute and entire, but generally serrated, half the size of the terminal leaflet, and overlapping it in its induplicate vernation.

Young leaves, while in the bud, covered with glandular hairs which soon drop off, a few only remaining in the axil and on the petiole. Flowers minute, in little bundles at the ends of the non-developed buds, with or without leaves, subsessile, with 3 minute bracts to each flower.

Calyx cylindrical, 4—5 toothed, thickly covered externally (as are the bracts) with glandular hairs; tube splitting as the fruit develope, and remaining spread out and withered at its base. Corolla of four, rarely five, strap-shaped, brownish-red petals; margins slightly overlapping in æstivation, with an inflexed mucro; tips of the petals curled back.

Stamens 8—10, the four opposite the petals, shorter than the others.

Disk 8—10 toothed, the alternate sinuses deeper and in these are situate the short stamens. Ovary bisulcate, two-celled, rarely three-celled, and still more uncommonly four-celled; sometimes imperfectly developed. There is no relation between the quinary proportion of the perianth, and this increased number of the carpellary leaves.

Ovary tapering upwards and passing imperceptibly into the short and thick style.

Stigma obscurely two-lobed.

Ovules two in each cell, collateral, suspended.

Drupe red when ripe, ovate-acuminated, often bluntly angular, marked by two sutures along which the epicarp and a portion of the mesocarp fall from the base in two fleshy valves, whose position is that of the carpellary leaves, leaving the nut enveloped by a four-cleft orange-coloured pulp, whose arms meet at the apex.

Nut ovate-acute, readily splitting into two. Each half has a groove on the commissural plane, bifurcating upwards. Into this groove fits a prolongation of the axis.

The drupe has sometimes 3 sutures, and a six-cleft pulp; and rarely 4 sutures, 4 nuts, and a four-cleft pulp.

Out of a parcel of 56, two had 3 sutures and one had 4 sutures, the rest being normal.

Seeds generally one in each cell or $\frac{1}{1}$ (two ovules being abortive), often $\frac{0}{1}$ (three abortive), more rarely $\frac{2}{1}$ (one abortive), still more rarely $\frac{2}{0}$ (two abortive), and very seldom $\frac{2}{2}$ (all perfect).

Out of a parcel of 41

| | | |
|----|----------------------------|---------------|
| 15 | were | $\frac{1}{1}$ |
| 13 | ..... | $\frac{0}{1}$ |
| 5 | ..... | $\frac{2}{1}$ |
| 8 | all abortive or uncertain. | |
| 41 | | |

Out of a parcel of 61

| | | |
|----|----------------------------|---------------|
| 24 | were | $\frac{1}{1}$ |
| 17 | ..... | $\frac{0}{1}$ |
| 8 | ..... | $\frac{2}{1}$ |
| 4 | ..... | $\frac{2}{0}$ |
| 2 | ..... | $\frac{2}{2}$ |
| 6 | all abortive or uncertain. | |
| 61 | | |

Albumen none; embryo straight; radicle superior; cotyledons thin, intricately crumpled and plaited.

Obs. 1. This shrub is called Googul or Googur, by the Hill-Belooches, who do not know it by the name of Mukul. It yields the gum-resin Googul, which they collect and bring to the bazaars of Hyderabad and

Kurrachee, where it sells at the rate of 4 Rupees the Maund of 80lbs. At Bombay, its Tariff valuation is 2 Rupees the Maund. It is collected in the cold season by making incisions with a knife in the tree, and letting the resin fall on the ground. Hence the dirty and impure state in which it is found in the shops. I have obtained it from September to December, and have found it stand off in large tears from a clean incision, of the consistence and opacity of "*pus laudabile*." My informants say that from half to a whole seer is yielded by a single tree. It is regarded as cordial and stimulant.

Made up into a cake with bajree flower, it is commonly given to horses and cattle when they have a cold. The dealers from Cabool make a practice of giving it to their horses in the cold season, thinking that it keeps them in health and condition. The fruit and young shoots are given for a similar purpose.

The gum is made into a plaster and used to discuss tumours and boils, and is regarded efficacious in expelling the guinea-worm both taken internally and applied to the tumour.

It is extensively used by the Hindoos as incense for burning in their temples, although its smell is by no means agreeable.

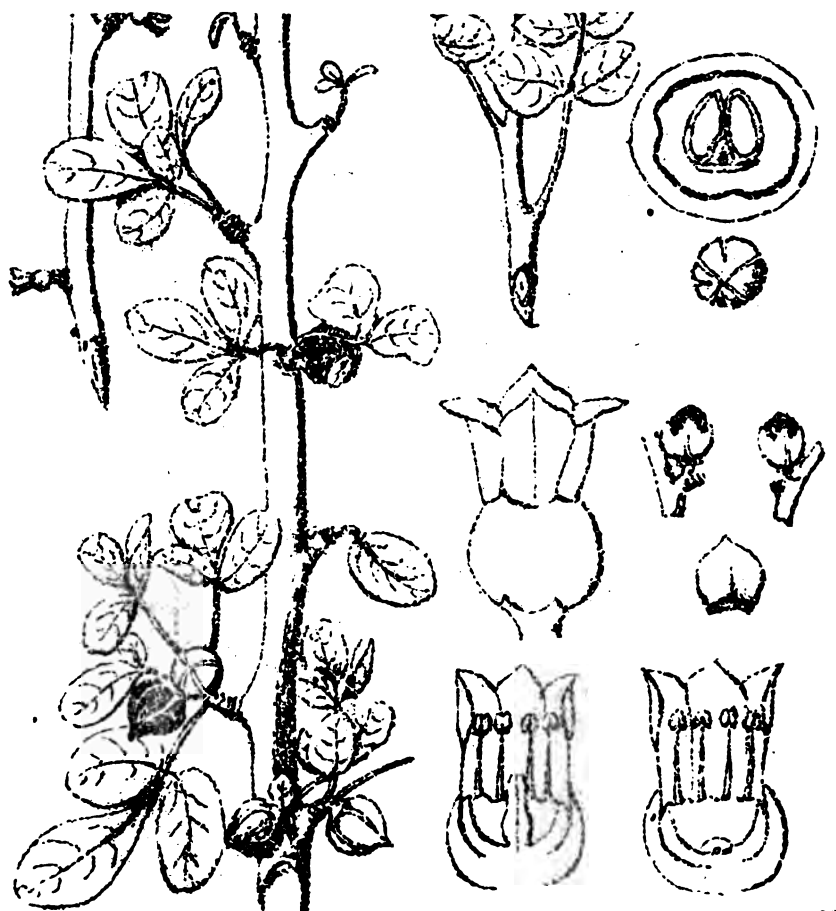
It is also much used by builders, who mix it with the mortar and plaster used in the construction of houses of a somewhat superior description, where durability is an object. The Googul is boiled in water for a considerable time, when its spirit (as they phrase it) is communicated to the water, and the dregs are thrown away. This solution of the gummy part, which according to Newman's analysis should be six drachms, two scruples in every ounce, is mixed with the lime, and employed with confidence to make the plaster adhere strongly, and to prevent it from crumbling and splitting. The Googul water is sometimes washed over the walls by itself.

OBS. 2. My friend Assistant Surgeon Carter showed me fine specimens of the "*Mukul*" gum collected by him on the southern coast of Arabia, together with numerous other gums, all accompanied by admirable drawings of the trees producing them. There is, therefore, some error in the statement of Dr. Malcolmson (*Royle's Materia Medica*) that *Bdelium* is not produced in Arabia.

Moreover the "*Mukul*" and the tree producing it, are from Dr. Carter's specimens, identical with the Sindh Googul, and its tree, as might be

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ALTERN
TYPHOID



W. Abraham del. J.E.S. descr.

7.7.64

Balsamodendron pubescens (J.E.S.)

expected from the great similarity between the vegetation of the rocky part of Sindh and that of Arabia.

The range of the Googul tree is extensive. Arabia (Dr. Carter); Northern India (Dr. Royle); Silhet and Assam (Roxburgh); and the Garrow Hills (Voigt). Aurungabad? (Dr. Walker). The Deccan? (Dr. Gibson). I have found it in Sindh, and at Deesa in Marwar.

2. *The Sindh Balsam-tree.*

BALSAMODENDRON PUBESCENS. (Stocks.)

A small tree, or stunted shrub, much resembling the Googul tree, but the sub-terminal branches, though abrupt, are not spiniform. Bark peeling off in flakes. Leaves ternate, fascicled at the end of the stunted buds, but on the young soft shoots alternate, with an additional distant pair of leaflets; long petioled, soft and downy (as are the young shoots) with short furfuraceous pubescence. Leaflets obovate, entire, often retuse; the terminal one stalked, the lateral ones subsessile, often somewhat rounded.

Flowers, sessile in bundles at the end of the stunted buds.

Calyx, tube shallow, contracted at the mouth.

Petals, red or white, with aestivation as in the Googul, but erect and not reflexed at the apex in anthesis.

Stamens, equal in height.

Disk, equally toothed.

Ovary, as in the Googul.

Drupe red, globose with a short point, marked by four conspicuous white sutures, the alternate ones (corresponding to the mid-rib of the carpellary leaves) not reaching to the apex of the fruit. Valves two, each cleft half way up by the secondary or false suture. Pulp orange coloured, four-toothed upwards, not reaching to the apex of the nut which is left naked. Nut ovate obtuse; one of the halves into which it splits is a mere flat plate or scale, the other is a perfect cell grooved on the commissural plane. Sometimes the number of carpellary leaves is increased. Thus out of a parcel of 120 there were four, and out of a parcel of 200 there were seven, which had 6 sutures and a pulp 6 toothed towards the top.

In these cases the additional carpel was represented by a second flat plate, or more rarely there were two perfect cells and one abortive

One seed in each perfect carpel.

Albumen none; embryo straight.

Radicle, superior; cotyledons; crumpled and plaited.

OBS. 1. This shrub is called Bæe by the Hill-Belooches, who make no use of it. Its young shoots and buds are remarkably fragrant when bruised. In the cold season it yields a small quantity of a tasteless, inodorous, brittle gum, almost entirely soluble in water. It flowers scantily in October, and its leaves and young shoots appear with a few flowers in April and May. It is a native of Beloochistan and the hills which separate that province from Sindh; probably also of Afghanistan, attaining its southern limit about Kurrachee.

OBS. 2. Dr. Arnott makes two sections of the genus *Balsamodendron*, depending on the relative depth of the calyx. The *Googul* tree has its calyx long and tubular. The one just described has its calyx shallow; and this is especially observable in a section of the flower. Moreover its fruit differs in having two additional imperfect sutures, in which it agrees with *B. Gileadense* and *Kafal*, as we gather from Forskall, and from *B. Berryi* and *Wightii*, as Dr. Wight kindly informs me.

ARTICLE VI.—*On the Brahmanical manner of contracting third Marriages.* By the Rev. J. STEVENSON, D. D.

The ancient Hindu legislators, not having courage enough openly to denounce polygamy, and yet having wisdom sufficient to see the hurtful effects of such a custom, if carried to any great extent, have endeavoured to deter men from its practice by working upon their superstitious fears. Bigamy they permit unchallenged, but place what might at first sight appear an insuperable barrier in the way of contracting a third marriage, by asserting that he who does so, will invariably die in a short period after the ceremony; and this wholly irrespective of the consideration of the wives formerly wedded being alive or dead. Indeed, it is by no means considered respectable for a householder to contract even a second marriage, while his former wife is alive, provided that he has a son; the want of an heir to inherit his property and perform his funeral rites being considered the only proper excuse for departing from adherence to what is generally admitted to be the law of Nature. Brahmanical ingenuity has,

however, without the indecency of running openly in the face of a threatening contained in one of their sacred books, found a way of evading it by getting married the third time to a shrub called by them *Rui* (रुई) a kind of Swallow wort. After this ceremony has been gone through, all the danger falls on the poor vegetable, and so leaving the Purans and their curses behind him, the disciple of the Brahmins may run in the path of polygamy as far as he feels inclined.

Thinking that a short description of such a singular rite might be interesting to the Society, I have translated a short account of such a marriage drawn up by the Principal of the Hindu college at Poona, and transmitted to me by the Superintendent, Captain Candy. The paper is to the following effect.

"In the Matsya Purána, a third marriage is prohibited, and it is there declared that if any one through ignorance or presumption contract such a marriage he will die, and this denunciation rests on the authority of Garga. In the work that contains the Synopsis of rites and ceremonies, it is stated that if a third marriage is contracted, the woman will speedily become a widow, and therefore in order to accomplish a fourth marriage it is necessary first of all to be affianced to the Rui tree. The rite is performed in the following manner: On Sunday or Saturday, or any time when the sun is in the Lunar Asterism Hasta, let the resolution be expressed and the message of greeting sent by a Brahman. Then let the Manes of the deceased ancestors be worshipped under the name of Nándi-mukha (Pleasurable faces). The Rui tree is then to be worshipped through the priest, and to be considered as a representative of the sun in union with his wife Chháya (Shadow); an offering at the same time of raw sugar and boiled rice is to be presented.

Then the following invocation addressed to the Sun is to be made:—"O thou who dwellest in the three worlds, do thou along with thy wife Chháya obviate the dangers that attend a third marriage and confer on me felicity." Then placing the hand three times on the bush, it is thus to be addressed at the first time:

"O Rui, created by Brahmá Deva that thou mayest preserve me, therefore, O beneficent goddess, I prostrate myself before thee. O daughter of the Sun, I worship thee; mercifully preserve me now that thou art come to be my wife." At the second time, he says, "O swallow wort, thou wert produced by Brahmá Deva for the benefit of all living beings. Thou art the first born of trees, who increasest towards us the love of the gods, obviate

the dangers of a third marriage." Then putting the hand out the third time, after this the priest is to say, "I will give to you of such a tribe my daughter Arkakanya, the grand daughter of Savita, the great grand daughter of Aditya, of the tribe of Kasyapa." Then the ceremony of presenting curds, honey, and sweatmeats, is to be performed. The veil is then to be drawn between the parties, and the marriage benediction pronounced. Afterwards the veil is removed, the newly wedded husband puts a garland on the tree, and the priest one on him in the name of his new wife; the marriage is thus rendered indissoluble. Then the priest says, "Now I have given to thee my daughter Arkakanya, the grand daughter of Savita, the great-grand-daughter of Aditya, of the tribe of Kasyapa. After this, gifts are to be given to the attendants and to the priest." Then a thread is to be passed round the newly married pair, and a bracelet bound on one of each of their hands. Vishnu is then to be worshipped
 In all the four points of the compass sacred fire is also to be consecrated, and oblations made to Brahaspati, priest of the gods, to Agni (Fire), Vayu (Wind), Surya (the Sun), and Prajapati (the Progenitor of mankind). Two cows are next to be given to the officiating priest. Then the newly married husband is to utter the following prayer, "O Arka (Sun), as I who am a man, have gone through this ceremony with a tree, grant me descendants and pardon whatever has been done amiss." After which he takes some water and casts it from his hands as the termination of the rite.

[*Translation of the Preceding.*]

तृतीयेर्शी विवाह करण्याचा निषेध.

मत्स्यपुराणामध्ये रतिसाठी तृतीयेर्शी विवाह कर्षीहि करूं नये, मोहाने किंवा भ्रमाने जर तृतीया मानुषीर्शी विवाह करील तर मरेल यांत संदेह नाही, गर्गाचें वचन याप्रमाणें आहे, असा आहे व संस्रह मयी तृतीयेर्शी लग्न केल्यास ती विधवा होईल, यास्तव चतुर्थ विवाह होण्याकरितां दुईर्शी विवाह करावा असें लिहिलें आहे. त्याचें विधान; तर रविवारी, किंवा शनिवारी, किंवा हस्तनक्षत्री नवऱ्याने संकल्प करून स्वस्तिवाचन (आशीर्वचन) ब्राह्मणाहीं कडून करवून पित्रांस

नांदी मुख नाम लावून, नांदी श्राद्ध करून, आचार्य वरून रुईचे ठाई छायायुक्त सूर्याचे पूजन करून, गुडादनाचा नैवेद्य करून, तंतूनी वेष्टन करून, हे रवे त्रिलोकांत राहणारा छाया सहित तूं तृतीय विवाहजन्य दोषाचें निराकरणकरून, सुख कर, अग्नी प्रार्थना करून तीन वेळ पाणी घालावें; माग्नी प्रीति करणारे, मी उत्पन्न केलेली, प्राचीन सूर्यापासून जात, ब्रह्मदेवाने उत्पन्न केलेली रुई आह्माला संरक्षो, ह्योण एकवेळ हे मंगलकारके देवी तुला नमस्कार असो. हे सूर्य पुत्रि, तुला नमस्कार असो. मला कृपेने राख, तूं माझ्या पत्नीत्वाप्रति आलीस. ह्योण दुसऱ्याने. व हे अर्कवृक्ष तूं ब्रह्मदेवाने सर्व प्राण्यांच्या कल्याणार्थ उत्पादित आहेस, तूं वृक्षांचा आदिभूत आहेस, देवांची प्रीति वाढिवणारा, तृतीय विवाह जन्य दोषाचा, व मृत्यूचा लवकर नाश कर; ह्योण तिसऱ्याने पाणी घालावें. यानंतर आचार्याने काश्यप गोत्रांची आदित्यांची प्रपौत्री, सवित्राची पौत्री, माग्नी पुत्री, अर्ककन्या अमुक गोत्रांतल्या बराला देईन, असें वाणीने दान करून, बराची मधुपर्क पूजाकरून, दोघामध्ये वस्त्रधरून, मंगलाष्टक ह्मणून, मग वस्त्र काढून नवऱ्याकडून रुईस माळ घालावी, व आचार्याने रुईची माळ नवऱ्याचे गळ्यांत घालावी, असें लग्न लावावें. त्या नंतर काश्यप गोत्राची आदित्याची प्रपौत्री सवित्राची पौत्री माग्नी पुत्री अर्क कन्या अमुक गोत्रांतल्या बराला तुला दिव्ही, असें दानकरून दक्षिणा द्यावी. तदनंतर रुई आणि नवरा यासभोवतें सूत्र वेष्टून त्या सुताने रुईत एक, व नवऱ्याचे हातांत एक, असीं दोन कंकणें बांधून रुईच्या चोहो दिशेस कुंभावर विष्णुपूजाकरून, अभिस्थापन करून बृहत्स्यर्थ व अग्न्यर्थ होम करून, अभि वायु सूर्य प्रजापत्यर्थ होमकरून, आचार्यास दोन गाई देऊन, मी मनुष्याने वृक्षाचे ठाई हे कर्म केलें हे अर्क मला अपयें दे, आणि तें सर्व क्षमा कर, अग्नी प्रार्थना करून, या कर्माने परमेश्वरास संतोष व्हावा ह्योण पाणी हाताने सोडावें.

ARTICLE. VII.—*Reports accompanying Copper Ore from the Island of Maseera, and on Lithographic Limestone from the Southern Coast of Arabia.* By Assistant Surgeon H. J. CARTER.

To the Secretary to the Bombay Branch Royal Asiatic Society.

SIR,—I am directed by the Honorable the Governor in Council, to transmit to you, for presentation to the Bombay Branch of the Royal Asiatic Society, the annexed Copy of Reports, by Assistant Surgeon Carter, on Copper Ore from the Island of Maseera, and Lithographic Limestone from the south-east coast of Arabia, accompanied by specimens of the ore.

I have the honor to be.

Sir,

Bombay Castle,
21st December, 1846. }

Your most obed. servant,

W. ESCOMBE,
Secretary to Government.

While the Officers of the H. C. surveying Brig "Palinurus" were engaged in surveying the channel between the mainland of Arabia and the the Island of Maseera, I occasionally amused myself by collecting specimens from the mineralogical productions of the latter, and having heard, (but from what source I cannot now remember,) that the Persians formerly worked Copper mines there, I determined to test as far as possible the validity of the report. With this view, I from time to time, as the survey of the inner side of the Island was carried on, landed and prosecuted my research by excursions across it, opposite the point at which we were stationed; but my investigations were unattended by success, and the inhabitants either could not or would not guide me to the mines, being altogether ignorant of the facts of their existence, or otherwise too cautious to enlighten me on the subject, not thoroughly understanding, for some time after our arrival, what was the real nature of our visit to their Island. We had reached the south-western extremity of Maseera, before I had the good fortune to discover a vein of the mineral, of which I had been so earnestly in search. I had wandered over many miles of the

forests of volcanic Cones, (for such is their appearance when viewed from a height), which pervade the island, and was about to relinquish my search, when, on the morning of February 1st 1846, I landed about a mile from Ras Abo Rasas, the south-westernmost point of Maseera; and after a short ramble fell in with some small portions of the blue carbonate of Copper, (Azure Malachite, M.). Had I seen the vein at that moment, I could not have felt more confident of its existence or more delighted with my success; and but a little further on, I halted at the sites of some old smelting-places, around which was a quantity of the blue mineral just mentioned, and slags containing portions of it in a reduced state; and a few moments more brought me to the object of my search viz. the ore itself *in situ*.

It occurs in the form of the blue and green carbonates, disseminated in crystalline quartz-veins which are about six inches in width, and associated with brown Hematite. These veins, to which the mineral appears to be confined, traverse a green hornblendic earthy rock in the direction of north and south; they have not been much worked below the surface, and there are no remains of shafts or subterraneous excavations in their neighbourhood.

Afterwards I discovered some of the "Blue carbonate of Copper," strewn over the surface of the ground, on the outer side of the island near Ras Jah, but as it was towards evening that I fell in with it, and the sun had set, I had not another opportunity of returning to the same spot to seek for the vein.

The third and last place where I met with the mineral mentioned, is about a mile due east of Ras Jazeera, a little Cape on the outside of Maseera, close to which is a small island. Here the veins are in a reddish trap rock, and though much richer than those at Aboo Rasas, they have been less worked; as at the latter place they are about a mile from the shore, and from fifty to one hundred feet above the level of the sea.

After it became known to the inhabitants that we were aware of the existence of Copper in the island, I was informed that there are several other places, which I had not seen, situated near the village of Garen, where there are also the remains of smelting-places, said to have been built by the Faringhees; but as my excursions were over, the survey of the Island of Maseera completed, and we were about to weigh anchor to

take up a station on the opposite coast, I had not an opportunity of visiting them.

The specimens accompanying this Report have been collected from the *debris* of the decomposing metalliferous rocks which the veins traverse, and will serve to shew in what form the Copper occurs in the volcanic rocks of Maseera; but the richness or pooriness of the veins themselves, lower down, in the undecomposed part, must be ascertained by a more extended examination than it was then in my power to accomplish. Of this I feel satisfied, that there are many others of the same mineral which I did not see, many also undiscovered, and that there is a vast quantity of Copper Ore scattered through the *Trap Rocks* of Maseera. That these mines at some time or other were, considered worth working, is proved by the presence of the remains of old smelting-places in the vicinity of the veins, but with what profit, is probably now unknown.

The Island of Maseera is inhabited by the Janabah tribe, a cognate tribe of the Beni-Bo-Ali, and a few families of the tribe of Hakiman, who people the islands in Gubat Hashish. At first they were much opposed to our landing, and threatened to murder the first boat's crew that came on shore; subsequently, however, Hamud, Shaykh of Soor, came down for the purpose of mediating between his uncle Mohamed bin Mohamed, Shaykh of the Janabah tribe, and ourselves, and after a reconciliation had taken place, the steadiness and kindness of treatment every member of the tribe received, won for us their good opinion, and our departure from the island was as much regretted by its inhabitants, as our arrival had been considered hostile and unwelcome.

So willing were the inhabitants to supply all our wants, after the object of our visit was thoroughly understood; so great is their confidence in our pecuniary transactions with them; and so much more are they given to habits of industry than the Bedwins of the mainland, that if any desire of the Government to work these Copper mines was intimated to them, I feel convinced that they would hail the proposition with delight, as holding out a prospect of amelioration which, from the barrenness of their island and their extreme poverty, they could expect from no other source.

The channel between Maseera and the mainland, though difficult to navigate, is safe, offers good anchorage and plenty of water. It would appear by the information obtained from the inhabitants, that having anchored there, you could not work out during the south-west monsoon, but

could remain as safe as during the north-east monsoon, when there is hardly a ripple there to disturb the surface of the water.

There is excellent fresh water to be obtained from shallow wells on the inner side of the island, but provisions of all kinds, excepting fish, are scanty from the barrenness of its soil.

*Report on Lithographic Limestone from the South-east
Coast of Arabia.*

As we approach the south-western half of Kuria Muria Bay, on running down the south-eastern Coast of Arabia from the N. E., a Limestone formation of great magnitude makes its appearance in the form of mountains near the sea, backed by table land, (a less disturbed part of the formation), elevated about four thousand feet. From the Bay of Kuria Muria this highland is continued on with trifling interruptions here and there, of valleys and passes, to the Fudhaylee mountains, a little to the north-east of Aden. In its composition are found limestone strata of various degrees of purity, passing from pure compact fine-grained limestone above, breaking with a conchoidal fracture, downwards into coarse micaceous sand-stone. It is near the village of Marbât towards the upper part of its series, that I observed a stratum possessing the character and properties of Lithographic Limestone, and from which I gathered the specimens I have now the honor to forward. One of them has been ground down by Dr. Buist, whose report on its genuine character, and its commercial value, I beg leave to annex to my own ; and to prove its identity with that used for lithographic purposes, a design has been transferred to it, from which the accompanying impressions have been taken, that, in forwarding the specimens, satisfactory evidence might at the same time be given of what can be produced from them.

The stratum composed of this stone, is from three to four miles inland (varying with the distance of the highland from the shore), close to the summit or edge of the table-land above the village of Marbât ; from whence there is a descent towards the sea, sometimes gradual, sometimes precipitous, so that blocks loosened from the top, could with little trouble, be rolled down to the water's edge, where they might be immediately shipped ; there is also a running stream of fresh water on the spot. As however the stratum must be continued on, and the mountains are equally near the sea for some distance on both sides, there might even be a still

more convenient position for quarrying the stone than that above Marbāt; at all events this would offer an advantage in the selection of material.

The people who inhabit the highland, where the lithographic stone is to be found, are the Beni Gara; they are fierce and revengeful, but if properly treated, are easily managed; and though they would not submit to be employed as quarrymen, yet they would be quite ready to enter into any engagement to protect others from being attacked by the more predatory part of their tribe. At the same time each Beit or family, of the Gara tribe, possessing its distinct and particular portion of the district they inhabit, and being exclusively entitled to its peculiar produce, it would simplify the matter much, to treat with that family only from whose land the stone might be required to be taken; this could not be done, however, without the concurrence and the aid of the Arab (not Bedwin) Shaykhs and merchants of the neighbourhood, who, under the idea of participating in the gain, would be quite willing to smooth the way for the introduction of any commercial scheme. Before however proceeding in the matter, it would be advisable to ascertain more satisfactorily what quantity of Lithographic Limestone the stratum is capable of yielding, as well as its average uniformity of texture; points, which from such investigations generally being considered of so little consequence compared with the main object of the survey, I had neither time nor means afforded me to determine.

Bombay; }
November 30th, 1846. }

H. J. CARTER.
Assist. Surgeon.

ARTICLE VIII. *Notice of Dr. Roth's investigations of the Vedas.* By the Rev. J. M. MITCHELL.

Some recent researches into the literature and history of the Vedas, conducted by a German Orientalist, Dr. Rudolph Roth, have been productive of results sufficiently interesting and important to claim the attentive consideration of our Society. These results have been communicated to the public in a volume, of 180 pages 8vo. entitled

Zur Litteratur und Geschichte des Weda. Drei Abhandlungen, von Rudolph Roth, Doctor der Philosophie. Stuttgart, 1846.

A special interest attaches itself to the Vedas at present, from the

fact that the Court of Directors is understood to have come forward in patronage of an edition of the Rig Veda, which is to be edited in Sanskrit by a German Scholar, Dr. M. Müller, with a translation into English by Professor Wilson. Independently of this, however, Dr. Roth's contributions to Oriental investigation would be most welcome to all who take an intelligent interest in the history of the human race, and in the unsealing of a book which is unquestionably one of the most remarkable of its records.

Dr. Roth seems carefully to have examined the MSS. of the Vedas that are deposited in the library of the East India House, London, the Bodleian library at Oxford, and the Bibliothèque Royale at Paris.

The following is a condensed statement of the results to which his inquiries have conducted him.

The Vedas are properly five in number,—the *Rik*, the *Sáma*, the *White Yajus*, the *Black Yajus*, and the *Atharva*. A Veda consists properly of two perfectly distinct parts, the first being collections of hymns, the second liturgical treatises. The first part is called *Sanhitá*; the second, *Bráhmaṇa*. These two parts are probably not of the same age,—the hymns being more ancient than the liturgical treatises. Among the five Vedic books denominated *Sanhitá*, there are, however, only four collections of hymns. The fifth, the *Taittiriya Sanhitá* (or the so-called hymns of the *Black Yajus*), is a liturgical work.

Among the four collections of hymns, the *Rik* is the most extensive, amounting to nearly 11,000 verses. The *Atharva* hymns are nearly as numerous; those of the *Vájasaneya* (or *White Yajus*) may amount to half as many as those of the *Atharva*, and those of the *Sáma* to one fourth of those of the *Atharva*. The hymns of all the four Vedas taken together may amount to about 30,000 verses.*

But, as Colebrooke has remarked, the hymns of one Veda are often repeated in one or more of the others. Nearly the entire *Sáma* is in the *Rik*. About half the *Yajus* is in the *Rik*. Roth speaks doubtfully respecting the *Atharva*, of which he has been able to consult only an indifferent copy, but conjectures that one-third of it is in the *Rik*.

* In the *Jahrsbericht der Deutschen Morgenlandischen Gesellschaft* for 1845 and 1846, the numbers are thus stated on Roth's authority; *Rik*, 10,500 double verses; *Atharva*, about 8,000; *Vájasaneya*, considerably fewer; *Sáma*, about half of the *Vájasaneya*.

The usual division of the *Rik* may be called purely mechanical. It is into 8 equal parts (*ashtaka*), each *ashtaka* being divided into 8 sections (*adhāya*), and each *adhāya* into *varga* of 5 verses each. This arrangement appears to have been adopted simply to facilitate reference to the Veda in schools. The true division is into 10 *mandala* (books), consisting of *anuvāka* (chapters), which are again divided into *sukta* (hymns) and *rik* (verses).

The disposition of the parts of the *mandala* depends partly on ritual reasons, partly on similarity of subject; — for example, invocations of Agni generally come first, then of Indra, and so on.

We may specifically designate the *Rik* as the *historical* Veda. The collection of its sacred hymns is an astonishing work, and proves the existence of a scientific development of mind among the Hindús at a date long anterior to that when the Homeric poems were brought together. More than one thousand hymns are here before us, in which the ancient inhabitants of the Panjáb implored blessings on themselves and their herds, saluted the glowing East; sang the combat of the lightning-darting god with the dark night, and rendered thanks to the celestial powers, which had dispensed to them, as they believed, succour amid their battles.*

* Such, very nearly, is our author's animated description. It will be seen that he contemplates these ancient hymns in a purely literary point of view. It is however interesting and useful to examine them in another light; and when we do so, we are compelled to form a far less favourable estimate of their character. It is true, that the general absence of *anthropomorphism* from the Vedic notion of divine beings, necessarily excludes many of the worst outrages against morality that shock us in the Purānas, in which the worship of deified heroes and gods assimilated to men, plays so important a part. Still even in this respect the Vedas are faulty; and in the character of the sacred Rishis—particularly as these are represented in the commentaries on the Vedas—there is much that is morally repulsive. A dialogue is given in which Yama endeavours to seduce his twin-sister Yamuná. The Rishi Vasishtha is assailed by the house-dog, when about to steal grain. See Colebrooke, *Asiat. Res.* vol viii, p. 401 402. The warlike and revengeful character of the Rishis will be afterwards noticed. Gross indelicacy (such as in Rosen's *Rig Veda* p. 214, 215,) is too common to attract much notice. More portentous is the passage from the *Vrihad Aranyaka* quoted by Colebrooke *ut supra* p. 440.

Enthusiastic antiquarians like our author sometimes dislike such remarks as these. But, even were we permitted to waive the claims of religion and morality, a purely literary estimate of the Vedic hymns would be chargeable with that one-sidedness which the Germans generally pride themselves on shunning.

It must not be supposed, however, that the hymns of this Veda are exclusively religious. A hymn in the 7th *mandala* (noticed briefly by Colebrooke) describes in jocular language the revival of the frogs at the commencement of the rains, and compares their croaking to the singing of the Bráhmans in worship. In the 10th *mandala* we have the lamentation of a gamester over his ruinous devotion to play. Other instances might be adduced. Probably, those non-religious portions belong to a later period.

The *Rik* professes to give the hymns in the complete form in which they were *seen* by the Rishis. Not so the *Sáma* and *Yajus*, the liturgical purpose of which has materially affected their contents. In the *Sáma*, the metre has had much influence; similarity of sound even, appears frequently to have affected the succession of verses.

The undoubted fact that the hymns of the *Sáma* and *Yajus* form part of the *Rik* does not prove that the contents of the *Rik* were first collected. Probably, those that were required in worship, viz. those of the *Sáma* and *Yajus* were first brought together. The collecting of the *Rik* hymns depended on other and more scientific grounds. We may even presume that science, as usual, may have overdone her task; and, instead of transmitting the ancient hymns in an unaltered form, may have tried to improve upon them, and so given us a *rifacciamiento* (*ueberarbeitung*). Still, we see no cause for holding that the collectors of the *Rik* tampered with the old hymns in any thing essential.

The *Atharva* does not present us with single unconnected verses, but with complete hymns, the order of which is determined by their subjects. In this respect it resembles the *Rik*. Indeed, it may be called a supplement to the *Rik*,—a supplement which aimed at comprising the religious hymns of a period, when the *mantra* was no longer the expression of direct religious feeling, but had degenerated into a kind of charm or magical formula. This Veda, then, consists mainly of texts intended to protect against the hostility of divinities, against sickness, against wild beasts, &c. it contains curses against enemies, invocations of healing herbs, and prayers for aid in the occurrences of ordinary life, for safety in travelling, success in play, and so forth. In the passages common to the *Rik* and *Atharva*, the latter introduces many capricious inversions and alterations. In the portions peculiar to the *Atharva*, the Sanskrit approaches to the flowing diction of a later age, although the forms of the

words still remain archaic. A remarkable fact in the relation of the *Rik* and *Atharva* is, that the *Rik* towards the end (10th *mandala*, last chapter) contains many sections decidedly bearing the character of *Atharva* hymns, and actually found to be contained in the *Atharva*.

Many additional proofs might be adduced to shew not only the more recent collection of the *Atharva*, but also its more recent composition.

A very interesting section in Dr. Roth's treatise is on the *historical element in the Rig Veda*. He presents us with the text and a translation of various portions of the *Rik*, relating to the celebrated *Rishis Vis'wamitra* and *Vas'ishta*. From these passages he thinks he is able to deduce important historical facts. They relate to a great struggle which is represented as carried on by the ancient chief families on the banks of the *Yáska*, which Roth identifies with the Hydraotes in the Panjáb. He holds it to be established by the *Rik* that the ancient Hindú families resided farther to the northwest than we find them in the later books, and nearer the Indus than the *Yamuná*. The *Sindhu* or Indus is often mentioned, and highly celebrated; in the *Rik* hymns, it is termed, for example, *apasám apastamá*, the most copious of streams,—whereas, Roth has found the Ganges only once referred to, and then, with no special commendation. The remaining rivers of the Panjáb can also be clearly made out.

We find the ancient families which are accounted holy in the later Indian books, represented in those early poems as actively engaged in strife and war. Races, which, at the remote period referred to, possessed a common habitation, a common speech, and a common creed with those holy families, were afterwards widely separated from them in all respects. The religion that was born on the banks of the five rivers, was reared into a stupendous system in more southern lands; and the Brahmanic people applied the appellation of barbarians to those tribes which they had left behind, and which received a different development from themselves. The ancient songs breathing strife and slaughter were succeeded, in the fertile plains of the south and south-east, by sacrificial hymns and prayers; the gods too changed: and the once chivalrous race, courting ease and abandoning itself to superstitious dreams, retained no trace, except in a rigid asceticism, of that dauntless and energetic spirit by which, in days of old, it had been so remarkably distinguished.

Among the Vedic *Rishis*, *Vas'ishta* was farthest to the south-west,

and already possessed the region that subsequently came to be regarded as the holy land. *Viśvāmitra* was farther to the north-east, and in the tract which was afterwards held to be barbarous. *Vas'ishta*, in whom the lineaments of the future Brahman are discernible, was in subsequent times exalted above his warlike compeer. *Vas'ishta* is the priestly hero of the new order of things. *Viśvāmitra* is the last representative of the warrior-shepherds of the Panjáb.

Such would seem to be the general historical import of that great contest between the two Vedic families, the memory of which is preserved in the books of all succeeding times.

An interesting portion of Dr. Roth's treatise is occupied with statements relative to three Grammatical treatises, which he has been the first to bring to light. These are termed *Prātis'ākhya Sūtrāni*, i. e. Grammatical aphorisms belonging to each school. These works treat of the elementary part of Vedic Grammar, particularly the grammar of the *Rik* accent, *sandhi*, lengthening of vowels, pronunciation, &c. To these books Roth is disposed to ascribe a high antiquity. A passage in the ancient grammatical work called the *Nirukta*, proves that they are more ancient than Yāska, and consequently than Pāṇini, the father, as he is often called, of Sanskrit Grammar. Supposing Pāṇini to have flourished about 300 years before the Christian era, the *Prātis'ākhya* sutras now brought to light cannot be of later origin than between 450-400 B. C. These books again, however, frequently refer to still older grammatical treatises, and these we must suppose not more recent than from 500 to 450 years B. C. The collection of the Veda itself cannot well have been later, according to Roth, than the 7th century B. C.*

In the preceding remarks, I have contented myself with being simply the expositor of the views of Roth. The subject is so recondite, that few even of those who have paid attention to Sanskrit literature, can, without presumption, attempt to discharge the higher task of the critic. It appears, however, sufficiently plain that the results at which this zealous Scholar has already arrived, possess what our German friends would call an *objective validity* sufficient to excite the highest hopes regarding the services which he will render to Oriental literature, should his researches be continued in the spirit in which they have been commenced. Even already, although he has by no means equalled Colebrooke in ad-

* *Jarsbericht der Deutschen Morgenlandischen Gesellschaft.* p. 36.

ditions made to previously existing knowledge, and although the Essay on the Vedas of that profound and accurate Orientalist is at this moment by far the best exposition of those works, yet it must be admitted that Roth has brought forward not a little new and important matter.

Besides the treatise which has formed the subject of this notice, Roth has published an article on "Brahmá and the Brahmans," in the *Zeitschrift der Deutschen Morgenlandischen Gesellschaft*, Heft I. 1846, which, if it is not at all times perhaps convincing, is throughout most interesting.

Along with thorough-going German research, our author seems to possess an almost *Jonesian* ardour and imaginativeness. He is thus able to impart no small degree of fascination to his views. In his hands the old Vedic hymns, which lie withered and sapless in our collections, like the constituents of a *hortus siccus*, seem to burst afresh into life, and resume whatever of grace or fragrance they originally possessed; so that, when we consider them in a merely literary point of view, we are free to confess that among these faded leaves there lie, potentially, charms we could little have suspected. Many however will, we trust, approach the Vedas with yet other feelings; and, recognizing in them the most authentic and complete memorial of the human mind's early aberrations from primeval truth, will contemplate them in a far higher than merely esthetical point of view, and be enabled to deduce from those monuments "covered with the hoar of innumerable ages," lessons, which the human race, in all succeeding times, and throughout all lands, will do well to ponder and lay seriously to heart.

ARTICLE IX.—*Correction of the Girnar Asoka Inscription.*

By Captain LEGRAND JACOB. Belguam, 3rd March, 1845.

SIR,—I do myself the pleasure to send you a Table of corrections of sundry errors in the Lithographed copy of the Girnár Asoká Páli Edict, published in No. V. of the Society's Journal. My own copy may possibly be defective but it may help to aid any revised translation that may be attempted of this very ancient Inscription.

Girnar Asoka Inscription.

Table of Corrections of sundry errors in the Lithographed Copy of the Girnar Asoka Inscription published in No. V of the Bombay Asiatic Journal 1843. — By Capt. LeGrand Jacob.

1st Division.

| | | | |
|----------------------|-----------------------------|----------------------------------|--------|
| 4 th line | 2 ^d letter for 1 | read 3 ^d letter for 2 | read 2 |
| 8 th — | 1 st — for 3 | — | 3 |
| 10 th — | 5 th — for 3 | — | 3 |
| 11 th — | 5 th — for 3 | — | 3 |
| 12 th — | last — for 3 | — | 3 |

5th letter read or 3rd letter for 3rd letter

2^d Division.

| | | | |
|----------------------|---------------------------|-------------------|---------------------------------------|
| 1 st line | 2 ^d letter for | read | Ø |
| 2 ^d — | 18 ^h — for | 12 ^o | Û — read Û |
| 4 ^h — | 3 ^d — for | 10 ^h — | Û — 18 ^h let. for Û read Û |
| 5 ^h — | 8 ^h — for | 11 ^h | Û — |
| 6 ^h — | 20 ^h — for | 12 ^h | Û — |
| 8 ^h — | 24 ^h — for | 13 ^h | Û — |

3^d Division.

| | | | |
|----------------------|-----------------------------|-------------------|-------------|
| 1 st line | 29 th letter for | read | Û |
| 2 ^d — | 3 ^d — for | 12 ^o | Û — read Û |
| 3 ^d — | 23 ^d — for | 13 ^o | Û — |
| 4 ^h — | 6 ^h — for | 23 ^d — | Û — for Û — |
| 5 ^h — | 7 ^h — for | 24 ^h | Û — for Û — |

4th Division.

1st line 5th letter for ²⁷ read ²⁸ K

2^d — 16th — for — — — — —

4th — 14th — for — — — — —

5th — 3^d — for ³⁴ h — — 19th letter for ³⁵ D read ³⁶ E

b. The "anuswar" should follow the Ist letter and not be below the 2^d.

8th line 14th letter for ³² K read ³³ K

9th — 8th — for ³⁵ D — — D³⁶ 25th letter for ³⁷ E read ³⁸ E 29th letter for ³⁹ K read ⁴⁰ last letter

10th — 1st — for ⁴¹ omit — — — — —

11th — 4th — for ⁴² E — — E⁴³ 7th — for ⁴⁴ L — — L⁴⁵ 8th — for ⁴⁶ D — — D

D⁴⁷ — 26th — for omitted between ⁴⁸ o and ⁴⁹ o read ⁵⁰ last letter for ⁵¹ D read ⁵² d

19th — 18th — for ⁵³ J read ⁵⁴ J 25th letter for ⁵⁵ E read ⁵⁶ E

A. The first omitted letter counted.

5th Division.

4th line 13th letter for ^{47.} read ^{16.} 16th letter for ^{51.} read ^{46.} 46th letter for ^{49.} read ^{5.} 5th
 5th — 2^d — for ^{51.} 18th — for ^{51.} 5th — 5th
 6th — 2^d — for ^{51.} 3^d — for ^{51.} 3^d — 3^d
 7th — 25th — for ^{51.} 7th — 7th
 8th — 15th — for ^{51.} 8th — 8th
 9th — 5th — for ^{51.} 9th — 9th

6th Division.

1st line 1st letter for ^{57.} read ^{10.} 4th letter for ^{59.} read ^{7.} 7th letter for ^{59.} read ^{7.} 7th
 2^d — 4th — for ^{57.} 1st — 1st
 4th — 1st — for ^{57.} 28th — for ^{57.} 5th — 5th
 9th — 2^d — for ^{57.} 22^d — for ^{57.} 5th — 5th

^{65.} 10th line 23rd letter for ^{66.} read ^{67.} 26th letter for ^{68.} read ^{69.} 7
 11th — 20 — for ^{70.} K — K
 13 — 24 — for ^{71.} L — L

8th Division.

1st line 31st letter for ^{72.} read ^{73.} 26th letter for ^{74.} H read ^{75.} 35th letter for ^{76.} read ^{77.} □
 2nd — 23rd — for ^{78.} L — L
 5th — 10th — for ^{79.} K — K

9th Division.
 1st line 14th letter for ^{80.} read ^{81.} 30th letter for ^{82.} read ^{83.} H
 6th — 35th — for ^{84.} I read ^{85.} after ^{86.} L
 7th — 22nd — for ^{87.} read ^{88.} J
 9th — last — for ^{89.} D ^{90.} D

10th Division.

B The two erased letters not counted.

1st line 29 letters for ¹⁹*A* read *A*
 3^d — 16¹ — for ¹⁰*L* — *L*
 4th — 10³ — for ¹¹*F* — *F*

11th Division.

2^d line 16¹ letters for ²¹*E* read *E*

12th Division.

1st line 39 letters for ¹¹*D* read *D*
 6th — 18³ — for ¹⁶*S* — *S*
 9th — 10¹ — for ¹⁶*X* — *X*

13th Division.

3^d line 6¹ letters for ¹¹*T* read *T* 9³ letters for *L* read *L*

4th line 1st letter for ⁹⁰omit read ~~11~~ 1st letter for A read A C. The first omitted letter counted.
 N.B. The note to the 28th letter X of this line has by mistake been given in the lithograph below the following line.

8th line 1st letter for ⁹⁰read 5 13th letter for ⁹⁰read 5 20th letter for J read J

N.B. The notes to the 8th line have been inserted incorrectly, this line therefore is here given in full.

8th line J L { 3 U { ^{space for} 5 { ^{from 12th line} 3 { ^{from 12th line} T Y P R X T L { 3 I A { 8 J 8 X A V { ^{space but} 1 { ^{very} 8 { ^{double} E. F. G. H

In the 11th line 13th Division, for the lithographed note to the blank space for

"perhaps it", read "perhaps J but extremely doubtful."

D. 9 - all but, if not utterly impossible very faint trace apparently unevenness of rock of J

E. Very doubtful if there be an upper stroke to constitute a A

F. Doubtful if dotted line be fracture or letter, the vowel i, being the most likely portion.

C. k, impossible, n, quite plain.

H. 'ga' rather than 'tä', 'ya' impossible.

14th Division.

2^d line last letter for A read K.

4th — 24th — for O — O.

5th — 19th — for O — O.

/ Signed / C. L. Jacob.

Mich.

G. h, impossible, n, quite plain.

H. "ga" rather than "ta", "ya", impossible.

14th Division.

2^d line last letter for A read A'

4th — 24th — for O — O

5th — 19th — for O — O

/ Signed / G. L. Jacob.

ms. 11th.



भाग १

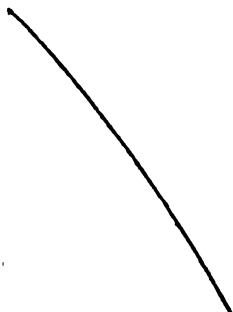
योजना



del



भाग १



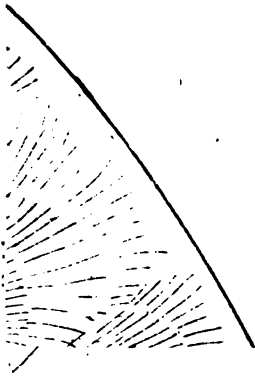
येजने



del

भाग २.

[



प्रमाणरेखा

= १००००००० योजने

५००००००० योजने

eva Bapu del'
Eng' Elph' In. & t "

ARTICLE X.—*Some Remarks on the Relation that subsists between the Jain and Brahmanical systems of Geography.*

By the Rev. J. Stevenson. D. D.

Before entering on the immediate subject of this paper, a few remarks require to be made upon the illustrative maps appended. I have to acknowledge my obligations for those necessary appendages, to a pupil of the Elphinstone College, Vasudeva Papu, and to Bombay Lithography, which has not allowed his labour and skill to prove abortive. The maps were ordered to be drawn according to the Bhagavat, and in relation to the first I need not here make any remark. The difficulty all lay in the execution of the second. Jambudwipa and the Salt sea, the subject of the first map, is comparatively a known world, having some limits, but the remaining Dwipas and seas almost set reason at defiance. The whole diameter of a great circle of the earth is 50 crores of Yojanas, or four thousand millions of miles. The diameter of the seven Dwipas amounts to little more than a tenth of this. The Lokaloka mountains, at the extreme limits of the earth, are said to have a width equal to one fourth of the whole, or 12 crores and 50 thousand Yojanas. The distance from Meru, in the centre, to the circular mountains Manasottara, in the last belt of land, is found by computation to be 57 lakhs and 50 thousand, and this is said to be the extent of the Svarna Bhumi, *land of gold*, used for a play ground by the gods. The radius of Jambudwipa is half a lakh; the width of the Salt sea one lakh of Yojanas; the next continent is two lakhs in width; the west sea is the same; the next continent is double of that, and so on; giving us as follows :

| | |
|--|--------------------|
| Radius of the circle embracing the 7 Dwipas | 2,53,50,000 |
| Extent of the golden land | 1,57,50,000 |
| Extent of Lokaloka | 12.50.00,000 |
| | <hr/> 16,61,00,000 |
| Subtract this from radius of the whole, viz. | 25,00,00,000 |
| And we have a remainder of | 8,39,00,000 |

Leaving a belt of eight crores and 39 lacks of Yojanas unaccounted for. What then was to be done with this? Why, the best thing that

could occur to a school boy was done, and the excess was thrown up to the play ground, at the expense however of increasing it to five times the size assigned in the Puran. In the Vishnu Puran, the boundary chain of mountains is only 10 thousand Yojanas wide, but the whole extent is stated to be the same as in the Bhagavat. Professor Wilson supposes this total was intended to embrace also the planetary spheres.

The central region of the earth, it will be seen, is supposed to be occupied by the solid circle of land called Jambudwipa, the diameter of which is said to be a hundred thousand Yojanas, divided mostly by tranverse chains of mountains, into nine great Divisions or *Varshas*. The Salt sea, a belt of water a hundred thousand Yojanas wide, surrounds all this central continent, and is encircled by *Plakshas Dwipa*, a band of land twice its width, and which by transverse ranges of mountains is separated into seven *Varshas*. This continent is surrounded by the sea of sugar of the same width, and it again encircled by *Salmali Dwipa*. In the same manner, and increasing in the same ratio, follow the sea of ardent spirits, *Kusadwipa*; the sea of melted butter, *Kraunchadwipa*; the sea of milk, *Sakadwipa*; the sea of cream, *Pushkaradwipa*; and the fresh water sea. The last mentioned continent, however, instead of being divided by transverse chains into seven parts as the rest, is divided by a circular mountain chain, called *Manasottara*, into two equal parts. Then follow the golden land and the boundary chain called *Lokaloka*, of which we have already spoken.

Instead of seven continents, the Jains acknowledge only three, and the outer part of the last being uninhabited, the two others and a holy continent with them, mean the habitable earth. The sea around *Jambudwipa* is a salt water band of twice its diameter, or two hundred thousand Yojanas. *Dhataki*, the next band of land, has a width of twice this extent, and the fresh water sea by which it is encircled, is twice that again, while *Puskara* is double of that, or 16 lakhs. This system is much simpler than the Brahmanical, and is evidently the original from which the other was formed, though the observations on which it was modeled, seem to have embraced little more than the knowledge that the Ganges and Indus ran into the sea, and that there were mountains and vast collections of fresh water to the north of the Himalayas. The Peninsula must have been wholly unknown, or the fabricators could never have made the line of coast, from the mouths of the Indus to those of the Ganges, the arc of a circle a hundred thousand Yojanas in diameter.

In reference to more minute particulars, both parties agree as to the position and heights of Meru, rising a hundred thousand Yojanas from its base, though of these 16 are under the earth's surface. This funnel-shaped central mountain is 16 thousand Yojanas in circumference at its base, and 32 at its summit. * On the top of Meru the Brahmins have placed the city of Brahma, while the Jains assign this site to the abode of Lakshmi, goddess of good luck, the Latin *Fortuna*. The great chains which divide Jambudwipa, are the same in position with Brahmins and Jains, only that the Jains interpose between us and Himavat the range called Wai-tadhya, or the white mountains, from behind which the sun is seen to rise. The chain on the north of Meru, which corresponds to the Himavat on the south, is called Sikhari, a name given also to Mount Parisnath. These two mountains are both of a light yellow colour, and send out at each extremity two lotus-leaf shaped promontaries, extending more than half way through the Salt sea, so that in all, we have eight of these projections. The two next chains, one on the north and the other on the south, corresponding to the Hemakuta and Sweta Parvata of the Purans, are called by the Jains Mahimavat and Suvarna Kuta, being respectively of a white and golden colour. The northern and southern Nishada, the former painted green and the latter red, and corresponding to the Nishada and Nila of our map, form the last pair of parallel ranges of mountains, running east and west. The central portion of Jambudwipa is divided by the Brahmins, as shewn on the map, into three sections. To these the Jains add two more, drawing lines from the extremities of the southern, till they meet the northern Nishada. These segments they call the eastern and western Máha-Vidrehas. In the angles of Ilavritta, called by them Devakuru and Uttarakuru, the Jains place four enormous tusk-shaped mountains, that on the southeast being yellow, that on the south-west green, that on the north-west white, and that on the north east red; near these also the four trees are situated which they, as well as the Brahmins, suppose to rise to immense height in these regions. The districts of Bhadraksa and Ketumala they call Vijaya and Uttarardha Vijaya. These are divided by transverse ranges into thirty-two parts. Sixteen districts of Vijaya lie on the east, and sixteen on the west of Meru, and the districts of Uttarardha Vijaya lie to the south and north of these, and come in contact on both sides with the Nishada mountain. These 64 portions of

* By mistake the accompanying map gives but half these number.

land are divided from one another by alternately blue and red mountains. The smaller divisions of Jambudwipa amount in all to 190, of which though six belong to Bharat Khanda, or the region south of the Himalayas, only one, the district between the Indus and Ganges, is inhabited by men acquainted with true religion. The others are the abode of Mlechchas, men who do not follow the religious system of the Jains. The two rivers take their rise from the Himavat, not from Meru as on our map. The Jains place a lake on the top of each of the mountainous chains in its centre, from which have their source two rivers, one running eastward on the south of the mountains, and another westward on the north. The two rivers that run from the Nishadas to the central regions, pass through five additional lakes, after the manner of the St. Lawrence, till they approach Meru, when they take a bend, and pass perpendicularly down through the centre of the Vijayas. The river that flows from the top of the Himavat to the east, divides itself into two portions, forming the eastern and western sides of a spherical triangle, of which the Salt sea forms the base. The district of Airavartta, on the opposite side of Jambudwipa, corresponds in most particulars with Bharat Khanda. Its capital city is Prabhasa, while that of Bharat Khanda is Ayodhya. These are the only two districts that are subject to periodical destructions and renovations. They form the chief abode of human beings, though the Vijayas also are inhabited by men, and have four *Tirthankaras*, divine sages, living in them at present. The central portion of the earth around them, and the two immense plains to the south and north of the Nishada mountains, on either side of Meru, and contained between the longitudinal ranges of mountains above described, are inhabited by Hermaphrodites, called by the Jaius, *Yugals*. The height of those in the central regions is three * garas; in the next division two, and in that nearest the abode of man, one. It is from these *Yugals* that the population of the earth is renewed after a periodic destruction; for by residence in our locality, and eating the fruit it produces, they become men. In their own territories the period of gestation is 79 days, 64 days, and 49, respectively. The parent dies immediately on the birth of a young *Yugala*. These persons are not the subjects of virtue and vice; they enjoy the reward of merits in a former state, which deserve nothing superior. Towards the four points of the com.

A garas varies from 5 to 9 miles.

pass in the Salt sea, there are four cavities of the shape of a large water jar, descending a hundred thousand Yojanas ; these are called Patala Khand, and form so many hells. The diameter of Jambudwipa is rated at a hundred thousand Yojanas, as is done by the Brahmans, but, as the Jains have only two seas and three continents, it was necessary to maintain their ground in the race of absurd exaggeration, begun with the Brahmans, to have a second Yojana, which they make 1,600 Kos, making the diameter of Jambudwipa 320 millions of miles. The width of the Salt sea encircling it, is double that amount ; Dhataki Khanda, the next continent albelt, is double that again ; the freshwater sea double that ; and the last continent, Pushkara Dwipa, is double that, or 16 lakhs of sacred Yojanas, making the diameter of the whole terrestrial circle little short of two thousand millions of miles, just however one half of the computations of the Bhagavat. As the Bhagavat is the latest of all the Purans, the same total was likely formed without any regard to the different items, to get beyond the Jains, as they by the innovation of the sacred Yojana had got before the ancient Brahmans. Immense however as these figures are, the earth in which we live and the system to which we belong, is but one of an infinite number of Chakravali, which occupy space. The Jains, having no infinite deity or soul of the world, like the Brahmans, satisfy the aspirations of the human mind, as far as such systems can satisfy, by an infinite universe. Their geographical scheme was at first apparently not very complicated, and such as might satisfy the unscientific minds of those in Upper India, who had heard of a Salt sea to the south, and of mountains and vast fresh water lakes to the north of the Himalayas ; but it is vain to look into their books for any definite information relative to any distant locality, though patient research might, from this source, throw some light on the internal Geography of India.

ART. XI.—*Desiderata, relative to Thibet and Central Asia, in a series of questions, proposed by the Bombay Branch Asiatic Society, to the Members of the Embassy proceeding to the Frontiers of Chinese Tartary.*

On the following communication, from the Foreign Secretary to the Government of India, being received by the Bombay Branch Asiatic Society.

a draft of *desiderata*, relative to Thibet and Central Asia, was made and ordered to be forwarded to Mr. Elliot, in reply to his letter; of which a copy was also communicated to the Bombay Geographical Society, with a request to know if its Members had any questions to propose to the Mission. The reply from the Secretary of the Geographical Society, containing suggestions on certain points, to which the attention of Members of the Mission might be usefully directed, was accompanied by a letter from Mr. Chambers of Edinburgh. The latter, in reference to a paper on *ancient Beaches*, read by him at the Oxford Meeting of the British Association, sought for further information and facts, on the relative levels of sea and land over large portions of the Globe, similar to those from which his deductions had been made. The Bombay Society, at its Monthly Meeting of the 9th September 1847, resolved that both these communications should be forwarded to Mr. Elliot; and the *desiderata*, or notes of information supplied for the use of the Thibet Mission, are here published with a view that they may be serviceable to the researches of future travellers.

Simla, July 8th, 1847.

DEAR SIR,—As a Mission is about to start to the frontier of Chinese Tartary, I shall be glad to learn if there is any question of literary or scientific interest, which you would wish its Members to make the subject of their investigation.

A Barometer and a few Magnetical and other Philosophical Instruments accompany the Mission, which will consist of Captain Cunningham, Dr. T. Thompson, and Lieutenant Strachey; and to such careful and intelligent observers may safely be entrusted any enquiry your learned Society may wish them to prosecute.

I remain,

To

*The Secretary of the
Branch Asiatic Society,
Bombay.*

Dear Sir,

Your most obedient Servant,
(Signed) H. M. ELLIOT,
Foreign Secy. to the Govt. of India.

The letter from the Foreign Secretary to the Government of India, now submitted to the Society, not informing us of the proposed route by which Captain Cunningham and the Mission intend to visit the frontiers of Chinese Tartary, a letter has been accordingly written to Mr. Elliot, requesting he will kindly intimate the line of route likely to be followed.

In order to prevent delay, and in anticipation of Mr. Elliot's reply, the following draft of a series of questions, on the *Orography, Hydrography, Ethnology, and Archæology* of Central Asia, can be forwarded to the Members of the Mission. The Society have reason to gratefully acknowledge this flattering reference made to it by order of the Governor General, and ought cheerfully to respond to this call by sending a catalogue of *desiderata*, on various points of investigation, relative to a portion of the earth now little known, but of great interest; such being connected, as Humbolt observes, with ideas of an extraordinary configuration of the surface, and being as it were the cradle of those primitive races of mankind, which have successively overspread and barbarized Europe.

The Mission may follow either the *Western* or *Eastern* route to the frontiers of Chinese Tartary; but many of the objects deserving of attention, and requiring investigation, would of course be somewhat different, according as its Members selected one or the other. If the former, Captain Cunningham will proceed I suppose from Kashmir to Lei or Ladak, and thence going along the banks of the river *Shayuk*, or northern branch of the Indus, will pass the *Karakorum* mountains, to Yarghien or Yarkand, Kashgar, and *Ili* or *Gulja*, the now Head Quarters of the Chinese Military Government, to which are subject the Mahomedan cities of Yarkand, Kashgar, Yengi-Hissar, Aksu, Ili, Ooch-Tur-fan, Koneh-Tur-fan, (or Hami), Gummi, and Lop. If he intends to pursue the latter, he will penetrate into Eastern Thibet, by the pass of *Tuklakoot*, on the eastern side of Kailas, or will follow the route already traversed by Turner, from the northeast frontier of Bengal, by way of Muri-chom, Tassisudon, and Dakka Je-ung, to Teshoo-Loomboo and Lhassa, the residence of the Grand Lama.

Under the supposition that either route may be taken, the following are some of the questions which the Society propose as subjects of research for Members of the Mission.

OROGRAPHY AND HYDROGRAPHY.

I.

What is the geognostical structure and highest elevation of the *Kuen-lun* mountain range, which separates Thibet from the western portion of Chinese Tartary, including the territories of Yarkand and Kashgar?

The Karakorum mountains, from which the Shayuk river has its source, form part of the Kuenlun range, and give origin also, on the opposite or northern declivity, to the rivers Karakash, and Yarang-Kash. These being joined by the *Serakol* river, of which a large branch flows from the *Karakol* lake, in the Bolor Tagh cross range of mountains, become then the river of Yarkand; which, after receiving two chief streams from Khoten, disembogues itself, on the eastward, in lake Lop, considered in the time of Marco Polo to be within the limits of Eastern Turkistan. The intermediate desert, from Kashgar to lake Lop, appears to have been anciently occupied by the *Yaghar-Ghoz*, a tribe of Turkish Nomades, frequently mentioned by the Arab Geographers, and who became early acquainted with the use of letters and the *Aigure* Alphabet, which is now generally used both among the *Turkish* and *Mon-golian tribes*. This country, formerly designated on the maps as *Little Bukharia*, and more correctly known as *Eastern Turkistan*, is now, without much attention to accuracy or the origin of its tribes, and simply from having become subject of late years to the Chinese Empire, reckoned part of Chinese Tartary.

II.

What is the breadth and elevation of the Bolor Tagh mountain range, from southwest to northeast, at that part forming the water-shed between the *Sir-i kol* lake, or sources of the Oxus westward, and the *Kara-kol* lake eastward, which gives origin to the northern branch of the Yarkand river?

The Bolor Tagh, according to Humbolt, is that mountain range parallel to the Meridian, extending from $32\frac{1}{2}^{\circ}$ north to 45° , which intersects the Himalaya, the Kuenlun, and the Tien-shan, to the parallel of $45\frac{1}{2}^{\circ}$ north, and to the extent of nearly 780 miles. The culminating points of the Bolor, which is composed of a number of chains nearly parallel, are supposed to exceed 18,000 feet, and are situated between 35° and 40° north. Lieutenant Wood, who reached the Sir-i-kol lake on the 19th of February 1838, places it in $37^{\circ} 27'$ north, and $73^{\circ} 40'$ east, and estimates its elevation to be 15,600 feet; above which the surrounding mountains, covered with perpetual snow, rose 3,500 feet.

III.

What are the names of the passes, and nature of the roads running across the Bolor Tagh mountains?

Three great passes are supposed to cross this mountain range. The two most northerly are those to Kashgar. One of them, in 1557, was described to Jenkinson as a journey of 41 days from Bokhara, by way of Tash-kand and Khojend, along the banks of the Sihon, or Jaxartes. The same route appears to have been followed, in A. D. 1780, by a Russian Officer named Czernechef, who went from Khojend to Kokan, Merghilan, Chihal-situn or Takhti-Suliman, (now called Oosh,) by some lead mines and the entrance of the plains eastward, to Kashgar. Meer Izzet Ullah, in returning from Kashgar to Kokan, reversed this route, having followed west by north for 98 hours the course of the Kashgar river, (*or northern branch of the Yaman-Yar,*) which has its source at Koksú, near the pass called *Darwaza Dawan Tezek*, or valley gate of Tezek. Westward of this are the streams which unite to form the *Sir* or *Sihon*. Meer Izzet Ullah describes the road, leading from the top of this pass, to be at first west by south in a narrow valley, and then along the skirts of the mountain Tezek to the town of *Irchelak*, for a distance of 16 hours. From Irchelak a road is said to run south 3 or 4 days journey to the Sir-i-kol or northern branch of the Yarkand river.

The second pass to Kashgar follows the course of the Oxus, and is the same as that called in Mr. Elphinstone's *Kabul* the pass of Chiltung: from which two roads, to the left and right, lead respectively to Kashgar and Yarkand. Instead therefore of three passes by which the traveller is conducted across the Bolor Tagh mountains, or rather the *plateau of Pamir*, there are more correctly speaking only two; of which the first, along the Oxus, was taken by Marco Polo, and the latter by Goez (A. D. 1603). This has been more recently traced in part, by Lieutenant Wood of the Indian Navy, who, in his journey to the sources of the Oxus, describes the road, from the latitude of Issar $37^{\circ} 02' 10''$ north, as running along the stream of the Oxus by the Darah or valley of the Sir-i-kol, which is divided, at Issar, from the Darah of Mastuch, conducting the traveller into the district of Chitral.

Marco Polo proceeded from Balkh to Taikan or Tailkan, thence ascended the mountain region of Balashan (Badakshan;) appears to have

crossed the Tokeba or river of Faizabad, and to have then followed the course of the Oxus to the elevated plain of Pamir; across which he journeyed for 12 days, before arriving at the region of Beloro, (Belor-Tagh), consisting of vast mountains with intermediate valleys; and thence, proceeded to Kashgar and Yarkand. Goetz also travelled for 20 days in a narrow track, overhanging the Oxus, before arriving at Sarchil, (Sarikol); and from thence went in two days to that part of the mountains covered with perpetual snow. He was then six days in crossing the southern portion of the plateau of Pamir, and was twenty days more in travelling to Yarkand by a very bad road. The Geography of these parts requires further elucidation as to the number of passes which lead in various directions. We have also as yet only approximations of the mean height of the *plateaux* of Ladak and the three Thibets.

IV.

What is the nature and length of the road said to lead across the mountains which separate the district of Rodokh, in Nari or Western Thibet, from the district of Khoten in Eastern Turkistan?

Thibet is the vast and mountainous tract of country between 73° and 98° east longitude, from Greenwich, and 27° 38° north latitude, inclusive of Belistan (or Little Thibet,) to the frontier of China eastward, where its southeast boundary is little known, and is supposed to be inhabited by numerous Nomade hordes, speaking corrupt dialects of the Thibetan language. Nari, or Western Thibet, has, through the investigations of Gerard, Moorcroft, and others, become more familiar to us, though there be much still in this part of the country for the investigation of travellers. An extensive trade was formerly carried on between Khoten, (now Elchi,) and Hindoostan; and a royal road from Gardokh and Rodokh, in the eastern part of Nari, is said to have led to Khoten and other districts of Eastern Turkistan; but the present state of the route, and the direction of the mountains over which it passes, are worthy the attention of the Mission, as being little known at present. Humbolt thinks that the water-shed, which here, to the eastward of the sacred lakes *Manasa* and *Rawana-hrada*, separates the sources of the Indus, the Sutlej, and the Dzungbo-tchou, is nearly 79° $35'$ of east longitude from Paris, and in north latitude about 31° $56'$. It must be considerably more to the eastward, however, as this is nearly the correct

position of the high ridge, which, running from northeast to southwest, separates the vallies of the Indus and Sutlej.

V.

What is the highest elevation of the Kantesi or Kailas peak of the Himalaya range, which gives origin to the branches of the Sinh-khabab river, or southeast branch of the Indus, and divides its source from those of the Sutlej, and the Yaroo Sanpoo river, supposed to have its source in the same lofty mountain range?

The peak called in Thibetan *Tesé*, and *Kailasa* in Sanskrit, situated about 81° east longitude and 31° north latitude, is supposed to be the mutual boundary of Western and Middle Thibet, the last of which is generally called *Pot* and *U-tsang*, the capitals of which are *Lhasa* and *Zhikatsé*. Eastern Thibet or *Kham-yul*, is bounded on the north by the countries of the Turks and Mongols, called by the Thibetans *Hor* and *Sokpo*. The greater number of the tribes inhabiting this part of Thibet, seem more nearly allied to the Mongolian than the Turkish races of men. The determination of this question as to the highest elevation of the Kailasa peak, with the elevation and direction also of other mountain ranges, which divide Thibet into various districts, is a subject requiring elucidation.

VL

Is the Yaroo Sanpoo, the great river of Southeastern Thibet, the same as the Irawaddi or Ava river, as supposed by D'Anville and Klaproth; or is it the Brahmaputra, according to the opinion of Major Rennell?

Humbolt expresses himself doubtingly of the indentification of the Yaroo Sanpoo, or Dzangbo-tchou, with the Brahmaputra; and though the probabilities seem to be in favor of Major Rennell's opinion, as opposed to that of Klaproth, the subject of this question is a yet undecided point.

VII.

What are the traces of ancient Volcanic revolutions throughout the region of Central Asia, and are the fossil bones of the elephant and rhinoceros found here as in Siberia?

Three eminent Russian Mathematicians, Messrs. Tuss, Savitch, and Sabler, have, by independent trigonometrical levellings, determined

the long pending geographical question of the *depression* of the Caspian, which is now ascertained to be only 83, 6 English feet below the level of the Black Sea and Mediterranean. This seems rather unfavorable to the soundness of Humbolt's opinion, that this inland sea may be considered, in a Geological point of view, as a great *Crater*, connected with the volcanic elevation of the plateau of Persia, and the chain of Hindukush; if not with the up-heavement of that which is vaguely and incorrectly named the plateau of Central Asia. We are but slightly informed of the state of *ancient volcanoes*, and others lately in a state of activity, which have been met with in this great country; and the tracts of volcanic territory, including the mountains of Peshan, Houtcheou, Ouroumptsi, Kobok, and Aral-toube, and others not yet brought to notice, require to be better described and known.

VIII.

Do the rivers or mountains of Thibet furnish gold, and what are the other mineral productions of the country?

In Western Thibet, the mountains near *Gardokh*, or *Gortope*, are said to be rich in gold and mineral matter; and the sandy beds of several of the rivers of the country are known to contain grains of gold, which is also said to be disseminated, and in masses, through the *quartz* and other rocks of this country. Mines of lead, iron, and copper, are also said to occur, along with mines of mercury, the ore being cinnabar: all of which subjects will of course claim the attention of the Mission.

IX.

Does any great river flow out of lake Manasarowar?

Geographers are yet sceptical of the result of Mr. Moorcroft's examination of this lake, that no streams of any consequence, and none whatever on the northern, western, or southern sides, issue out of *Manasarowar*. Further evidence is wanting to decide the correctness of Moorcroft's opinion.

X.

Is there a mountain chain on the Northern frontier of Eastern Thibet, running parallel to the Yaroo Sanpoo river; or are the mountains in this

quarter detached groups, admitting the highland of Eastern Thibet to pass gradually into the plateau and desert of Central Asia, possessed by the Kalmuks and Monguls?

The country, on the north and east, intervening between Thibet and the edge of the great sandy desert of *Shamo* and *Kobi*, is only known to us by vague report. From the prevalence however of lakes in these tracts, and the reputed origin of rivers of magnitude, such as the Hoang-Ho, which finds its way to the Eastern sea, there is reason to believe that a bifurcation of the Kuenlun range takes place far to the East, running along the southern edge of the desert, and that a hilly tract of country divides Thibet from the Great Desert.

XI.

If there be a mountain chain on the Northern frontier of Thibet, is it a continuation of the Kuenlun range, or an extension of the Kantesi and Kailasa peaks of the Himalaya?

This question naturally follows from the former, with a view that a definite account of the system of mountain ranges, in these parts, may be obtained for Geography: for our present maps of the country are characterized by a blissful ignorance of this matter, and Humbolt distinguishes the tract as *Terra Incognita*.

ETHNOLOGY AND ARCHAEOLOGY.

XII.

What are the differences of Ethnological physical character and features between the Thibetan tribes of Ladak and Lhasa, and is there any reason for believing that the people of Nari, or Western Thibet, belong to the Turkish race, or that the Thibetans proper, and Bhutias, are of the Mongolian family?

The Thibetans appear, as far as we may learn from their language and history, to be of mixed origin. The Western, or those of Ladak, are the descendants of the *Yeutchi*, *Indo-Scythians*, or *Sakas*, incorporated with the Turkish tribes of the *Hioung-Nou*; and the Eastern Thibetans, or those of *U-tsang* and *Kham-yul*, are said to have sprung from the *Khiang*, a yet wandering horde of savages in the fourth century of the Christian era; who, on being united with the *Thoufan* about A. D.

632, became an united people, and on adopting the *Bauddha* religion with its Sanskrit literature, soon after became conspicuous among the nations of Central Asia. If this opinion of the mixed origin of the Thibetans be true, it will probably be supported by the affinities of the Thibetan language being found cognate with the dialects of Turkistan and Kashmir, an opinion by the way which has in some measure received the sanction of Professor Horace Wilson. Such affinities can, however, only be looked for from a comparison of the *Jaghatai Turki* with the several dialects of Thibet.

XIII.

In what respect does the *Jaghatai Turki*, spoken at Yarkand and Kashgar, differ from the modern dialect of the same language now in use at Constantinople ?

The modern *Osmanli*, spoken at Constantinople, is a very mixed dialect, which has adopted many Arabic and Persian words, with a large proportion also of Greek and Italian; while the *Jaghatai Turki*, in use among the *Usbeks* and the tribes of Khwarism, is a more pure and original language, of which the grammatical peculiarities and affinities have not, as far as I know, been made the subject of investigation by any modern Philologist. The *Jaghatai Literature* is said to be rich in works of Historical interest; of which those best known to us are the important histories of the Mongols by Rashid-ad-din, and of Jhengiz Khan by the Wazir Ala-ad-din; taken it is said from earlier Annals, written in the language of the Ouigours.

XIV.

What are the affinities of the Thibetan dialects, spoken by the *Brok-pa*, or *Hor-pa*, (remnants of supposed ancient Turkish tribes, living in the deserts north west of Lhassa) with the dialects of the two Turkish tribes of *Usbek* and *Khirgis* ?

A more extensive comparison than has yet been made of these dialects is requisite before an opinion can be formed of how far Thibetan, and particularly its Western dialects, have any cognate affinities with the Turkish language.

XV.

Is there any good foundation for the opinion of Klaproth that the

Usbeks are the remains of the Ouigours or Aigures? And is there any tradition among them as to the period when the Ouigour alphabet, (known to be of Syrian origin,) was adopted by them?

According to Remusat and Klaproth the most ancient Turkish people, of which history makes mention, are the Hiong-nou, who possessed the original country of the Mongols, and were the ancestors of all the Turkish tribes. Among these the *Thou-khiou*, or Turks of the Altai, having obtained the superiority, and founded a vast Empire, about A. D. 552, assumed the national designation of *Thou-men*, from their first successful leader, who took to himself the title of *Il-khan*, or as written in Greek letters, on that series of coins belonging to him, *Aloukeno*, an apparent Syriac title derived from *Aloho deity* — and *Kahin*, priest or diviner. It is just possible that the latter part of the word *keno* may be meant for the Tartar word *Ken* or *Kan*, signifying the sun; and this supposition becomes more probable from our finding, on the reverse of these coins, the word $\Delta O H$ *looh*, with symbols of the fire worship; which seems to be either the *Anamese* word *lua* signifying fire, or the Thibetan *Lu* or *Lawa*, the appellation for the moon. The coins to which reference is here made will be found in Prinsep's Journal vol. v. pl. ii, fig. 17 and pl. xlv, fig. 12. The *Il-khan Thou-men* was succeeded by his son *Iski-khan*, who transmitted his kingdom to his brother, called by the Chinese *Ti-theou-pou-li Khan*, who reigned under the title of *Moukan Khan*, and is called by the Byzantine Authors *Diza-boul*, to whom Justin the II, in A. D. 569, sent his Ambassador Zemarkh. From this embassy we become acquainted with the fact of this nation of Turks having, at this early period, adopted the Ouigour Alphabet, in which were written the letters of congratulation to the Emperor, who had them explained to him, from the Scythian language and writing, by means of an Interpreter. (*Corpus Scriptorum Historiæ Byzantinæ excerpta e Menandri Historia fol. 296*). The whole of the Indo-Scythian coins, bearing the name of *Kenorano*, belong in all probability to this very *Moukan Khan*, called *Ken-khan* by the Persian Historians of the Turks. The *Thou-men* Turks, being occupied with constant wars with the powerful Chinese dynasty of *Thang*, became greatly weakened and divided among themselves, so as to give the *Si-yan-tho* and the *Hoei-he* an opportunity of completely destroying their power about A. D. 744, and of founding a new Empire on their ruin. The language of the latter has

been declared to be the Oriental Turkish, or Jaghatai dialect, spoken in the greatest purity by the Usbeks, who appear to be the descendants of *Hoei-he*, and to have established themselves as Nomades in *Khira*, *Ferghana*, and *Kokan*, about the beginning of the sixteenth century.

XVI.

On the Indo-Scythian Coins of *Kenorano* there are apparently corrupted Syrian titles written in Greek letters, and as the Nestorians had established themselves at *Merv-Shah-jehan* in A. D. 410, and had penetrated into Tartary so early as A. D. 636, is there reason for supposing that the *Thou-men Turks* obtained the Ouigour alphabet from these Christian sectaries along with the name of Ouigour?

The appellation Ouigour is by the Persians more correctly written *ایغور*, *Aighur* or *Ighur*; and has like the alphabet I think a Syriac or Nestorian origin.—This will probably be found in the Hebrew *Agur*, which Gesenius thinks may, like the word *Kohleth*, signify one of the assembly of wise men; a most appropriate appellation certainly for those who had introduced a knowledge of letters and writing among the rude savage tribes of Turkish and Tartar Nomades. This derivation too seems more probable, as the Chaldee *Igareth* signifies a Royal epistle or edict, sent by a public Courier and the same word *nummated* in Persian *انگاره* *Angarah*, signifying a narrative of facts or journal.

XVII.

Does the language of Thibet approach in Syntax and Grammatical form the dialects of the Mongol hordes, and of others inhabiting the country and belonging to the Indo-Chinese race; or does this language constitute a distinct class from either the Turkish, Mongol, or Chinese branches?

XVIII.

At what period of the Christian era did the *Sangayanas*, or Buddha Missions, from India to Thibet and Eastern Turkistan, carry with them into these countries the Prakrit alphabet of the Indian Cave Temples, along with the religion and literature of the people who formed them?

The Chronicle of Thibet relates that the Bauddha religion was introduced into that country A. D. 60, and that some of the most important Missions from India which established the national belief, took place in A. D. 225. Monsieur Remusat has endeavoured to shew that though this may be generally true of the people of Nari or Western Thibet, Ladak, and Eastern Turkistan, it is not so of the greater part of the nation, particularly the inhabitants of the eastern districts of Thibet, who remained in a state of ignorance till the beginning of the seventh century of our era, when the principles of Buddhism, eliminated and discussed in Sanskrit, appear to have been introduced from India.

XIX.

When was the religion of Bhuddha introduced into the district of Khoten, north of the *Kuenlun*; and what is the present state of the priests and followers of this faith, who are said to be numerous in that country?

M. Abul Remusat acquaints us with the important discovery that the language spoken at *Khoten*, before the Christian era, was *Sanskrit*, or at least *Prakrit*, a colloquial dialect of that learned tongue, and called *Fan* in the Chinese historical accounts. It was at least a dialect of the Arian family of languages, spoken by the *Sacæ* of *Casia* or Kashgar, and of *Bylta* or *Little Thibet*. The known existence of a colloquial medium of intercourse belonging to the Sanskrit class of languages tends to confirm *Masudi's* narrative, that *Naosherwan* the Great, after having killed the king *Akhshawan*, carried into Persia the original of the *Kalila Damna*. It has been already said, in the previous question, that the Bauddha religion was introduced into the country about A. D. 60; but there is reason to believe that the alphabet in which the Thibetan dialect was then written, a modification doubtless of the Indian-Cave alphabet, had been used in these countries at least 60 years B. C.

XX.

If there be any ancient books of the Bauddha religion met with in Khoten, what are the language and character in which they are written?

XXI.

Are there any works of value, written in the *Ouigour* alphabet or in *Jaghatai Turki*, relative to the history of the country to be met with in Eastern Turkistan?

XXII.

Are there any sculptured stones or inscriptions in an unknown character and of supposed ancient date, to be met with in the countries of Thibet and Eastern Turkistan?

XXIII.

Do any ancient *tumuli*, like the topes of Afghanistan and the Panjaub exist in these countries, and have any instruments of iron, or vessels of gold and silver ever been found in them?

Since the draft of these questions was drawn up, another communication has been received from Mr. Elliot informing the Society that the precise route, taken by the Mission from India, will be along the upper part of the valley of the Sutlej near its origin; on which they will come after passing by the *Niti Ghat*, over the high southern ranges of the Himalaya mountains, at an elevation of 14,544 feet above the level of the Ocean, and about the 31st degree of north latitude and 80° of east longitude from Greenwich. They will then proceed across the Sutlej valley to the junction of its eastern branch (the river of Lan-zing) with the *Spiti* river, which is here flowing from the northward; and will thence proceed by the *Panj kang* lake to the pass of the Karakorum mountains, over which a road leads to Yarkand; or they will follow the pass across the mountains from Rodokh to Khoten, where they are desired to winter, if possible; but if not so, they are to remain at Rodokh, on this side of the *Kuenlun*, or go on to Yarkand on the other. As soon as the season will admit of travelling, Captain Cunningham is to explore the course of the Indus to *Gilghit*, and thence through the *Terra Incognita* of the *Dardu* country; and Lieut. Strachey will pass on through the district eastward of the *Sin-kha-bab* river, or eastern branch of the Indus to Gardokh and the *Manasarawa* lake, to which place he penetrated last year from Kamaon over the Himalayas. He may then follow the route into Eastern Thibet by the *La Ganskiel* pass, and is directed to explore

from thence the course of the *Sanpu*, ascertaining whether it be the river of *Ava*, or the *Dihung*, which falls into the *Bramahputra*. Dr. Thompson is to investigate all the mineral treasures of our northern frontier. They are provided with Barometers, Thermometers, Sextants, Altitude and Azimuth Circles, Magnetical Instruments, and with whatever is in fact necessary for the extension of Geographical knowledge and the domain of science. The Members are prohibited from going into Independent Tartary, in order to prevent the possibility of any of those accidents befalling to the Mission, such as have already happened to those who preceded them in the field of exploration. The following may be proposed as general questions.

GENERAL QUESTIONS.

XXIV.

What is the present state of the trade between Kashmir and Yarkand? and what is the annual amount of the *Ambar* or pure silver, the wool of the shawl goat, tea, and silk, brought in exchange for shawls, white piece goods and leather?

XXV.

What is the Revenue of Khoten, and the state of the traffic between it and Yarkand?

A considerable annual amount of Mahomedan prayer silk clothes, satin paper, gold dust, raisins, and other things, are exported to Yarkand for copper-pots and leather.

XXVI.

Is there any export of broad cloth, brocades and copper, to the frontiers of China, or to the *Khanate* of *Kokan*, in return for tea, China ware, rhubarb, and salammoniac?

XXVII.

What is the present amount of the transit trade of Eastern Thibet, by the *La Gauskiel pass*, to Ladak and the Panjaub.

Large quantities of impure borax, shawl wool, gold and silver, are said to be brought by this route from China and Thibet.

ART. XII.—*Biographical Memoir of the late Major General Vans Kennedy.*—By JAMES BIRD, Esq.

The late Major General Vans Kennedy was the scion of an ancient family long resident in Ayrshire in Scotland, and connected with the noble house of Cassilis (or Ailsa), a branch generally admitted to be the chief of the race of Kennedy's, who came originally from Carrick, of which they afterwards were the Earls. Many of his family greatly distinguished themselves in the early wars both of France and Scotland, where they obtained high honors. The subject of the present memoir therefore naturally and proudly thought that "no ignoble blood flowed in his veins," and would occasionally say that "one would rather be the child of some body than of no body". He was well pleased also to remember that he was of a stock connected on his father's side, with the Earls of Eglintoun and Dumfries, and on his mother's side, with the Marquis of Annandale; and that while three descents in the days of Chivalry made a gentleman, he himself could number seven till his distinct genealogy became lost among the Lairds of Bargany.

The General's immediate progenitors, though less noble, were not however less respectable than the more remote part of his ancestry. His grandfather, a younger brother of the House of Bennan, a man of high character, made a considerable fortune by the sale of cattle, which were bred by himself, and by assisting country gentlemen in the management of their affairs. Through this he was enabled to purchase the estate of Pinmore in Ayrshire, which he left to his eldest son Mr. Kennedy, the father of the General and of Miss Grace Kennedy the Authoress of *Dunallan*, *Father Clement*, and other deservedly popular works.

Mr. Kennedy, to whom the estate of Pinmore descended and the father of the two children mentioned, who were destined to attain celebrity in the literary world, was himself a man of considerable talent, acquirements, and brilliant conversation, but of peculiarly retired habits, and of great negligence in his affairs; his wife was Miss Vans Agnew, the eldest daughter of John Vans of Barnbarrock, in the county of Wigton, who, having married his cousin the heiress of Agnew, became

the representative of that family and assumed its name. Mrs. Kennedy, remarkable for general information and for sincere and genuine piety, lived in the utmost seclusion at Pinmore, until she had become the mother of ten children, five sons and five daughters. Soon after this, Mr. Kennedy's affairs becoming embarrassed by the failure of the Ayr Bank, he was obliged to sell his property and move with his family to the vicinity of Edinburgh, where he resided until his death, which took place in the year 1790, leaving his admirable wife with the responsible charge of her five sons, three of whom were afterwards educated to professions in which they appear to have given promise of future eminence, but died early, a fourth died when a child, and Vans, the youngest, was left (the representative of the family) with five sisters, who afterwards evinced intellectual superiority by various publications.

Two years previous to Mr. Kennedy's removal to Edinburgh, his son Vans was born (1784), and after having been educated in the Edinburgh classes, was sent when twelve years of age to England, where he attended Dr. Duprè's Academy at Berkhamstead, along with his cousins, the sons of Robert Vans Agnew. Here he soon gave proofs of his studious disposition and ready apprehension, and having been soon after removed to Dr. Powell's establishment at Monmouth, made such rapid progress in his studies there, that Dr. Powell told his uncle he would be happy if he had an usher in his school so well qualified as young Kennedy. So much at this time was he attached to books and yet so indolently disposed, that Dr. Powell had great difficulty in making him join his companions at play to take the exercise necessary for preserving his health; still, though in general averse to join in the recreations of the other boys, he would sometimes exert himself in performing feats of strength, which however, were accomplished so awkwardly that they frequently excited the ridicule of his companions. Naturally of studious habits with an irritable temper he was not generally liked, though a favorite with many by whom he was found warm-hearted and amusing. The desire of distinction through the acquirement of languages formed his ruling passion, so much so that even his holidays were devoted to attaining a proficiency in French and Italian, and having but little facility in pronunciation for acquiring the colloquial parts, his chief attention was directed to their grammatical construction and philological peculiarities.

On the completion of his fourteenth year, having hopes of an appointment for India, he returned to Edinburgh to spend the last twelve months of his stay in Britain with his mother and sisters. While with them, he still continued zealously to prosecute his studies, and having through the influence of Mrs. Crawford Bruce, (a lady much attached to his mother) obtained a cadetship, he sailed for Bombay in 1800, where, on his arrival, he immediately entered upon the distinguished literary career destined for him to pursue. Soon after reaching Bombay he was employed with his Corps, (the 1st Battalion 2nd Grenadiers) in a campaign against the people of Malabar and Cottiate, where he was wounded in the neck, and ever afterwards suffered from the effects of that injury. The nature of the service in which he was then engaged and the want of books prevented his following the natural bent of his inclinations to the extent that he wished, but unfavorably even as he was then situated, he continued to devote his leisure hours to the study of the languages and literature of the East and, as it appears, acquired a vernacular knowledge of *Malayálim*, the dialect of the province in which he was serving.

On returning from the Malabar Coast, Lieut. Kennedy was sent to the Dekhan, where in January 1807, he was appointed Persian Interpreter to Col. Wallace, then Commanding the Peshwa's Subsidiary Force at Seroor, and though little acquainted at this time with the *Persian* language, he soon acquired such a proficiency in reading it as well as *Arabic*, that he is said to have translated with wonderful fluency the Persian *Shikastah* letters, written to his Superior from the Native Courts and by the Jaghirdárs of the country. At this period, Col. Close, who was Political Agent at the Peshwa's Court and resided at the Sangam near Poona, was particularly fond of having Vans Kennedy at the Residency, and of discussing metaphysical questions with him. Lieut. Frissell, a nephew of Col. Wilks, another young man of much promise in those days, used to join in these colloquies. Sir James Mackintosh frequently spoke with the greatest respect of Col. Close's powers of argument, and of the ingenuity and indomitable hardihood of Kennedy. It is besides no insignificant testimony to Gen. (then Lieut.) Kennedy's talents and literary acquirements to state, that the Hon'ble Mountstuart Elphinstone who succeeded Col. Close, declared that at that time he knew no man with more varied and extensive

learning than the subject of the present memoir. He had not merely gleaned superficially from the authors he had studied, but had perused their works thoroughly and critically. He had read, for instance, all *Firdausi*, several of the *Puranas*, and many others works of antiquity. In study he was indeed indefatigable, and spared no expense on books, MSS. and Moonshis, while during the early part of his life he is said to have read for sixteen hours a day. He received no visitors and rarely went out, so that his presence in public was regarded with astonishment and curiosity. While he continued Persian Interpreter of the Seroor Subsidiary Force under four successive Commanding Officers, he was occasionally nominated to the duties of Deputy Judge Advocate General of Courts Martial assembled in the Dekhan.

Just preceding General (then Captain) Kennedy's appointment in 1817 to the Office of Judge Advocate General of the Bombay Army, in succession to Major Lewis, he became a member of the *Bombay Branch of the Royal Asiatic Society*, then the *Literary Society of Bombay*, when the well known Translator of the Emperor Baber's interesting Memoirs and the Author of other learned Essays, was the Secretary; and it is no mean proof of the estimation in which his abilities and extent of learning were then held by the members of the Society, to find, that at the Anniversary Meeting of that year he was unanimously elected one of its *Vice-Presidents*. About the same time he read at one of the Society's Meetings his "Essay on Persian Literature", which, though confessedly imperfect and of confined scope, gives a good general idea of the subject.

At the Society's Anniversary Meeting of 1819 Captain Kennedy took charge of the duties of Secretary, while by a most fortunate coincidence Mountstuart Elphinstone became its President. About this time the two first volumes of the Society's Transactions, (which have since become standard works in the literary institutions of Europe,) were published.

In 1825, Kennedy contributed several translations of the *Puranas* to the Quarterly Oriental Review, then published at Calcutta under the Editorship of the learned Director of the Royal Asiatic Society. The results of his labours in *Sanskrit* and other languages were published at home in 1828, under the title of "Researches into the Origin and Affinity of the Principal Languages of Europe and Asia"; and three years

after, his "Researches into the Nature and Affinity of Ancient and Hindu Mythology" appeared; it was the first publication of the kind derived from authentic and original resources. His reputation throughout Europe had now become established, and many subsequent contributions to periodical works both in India and England only confirmed the opinion already formed by the public, of the great extent and diversity of his knowledge. His oriental learning was profound and accurate, especially in the Sanskrit range, being particularly well read in the religion, philosophy, and law of the Mahommedans and Hindus, and that too in the writings of the *Vedanta School* pertaining to the latter. For the religion of the Parsis however, and the ancient books of that sect, he had no great respect. He often contributed to the *Asiatic Journal*, chiefly on subjects connected with Oriental Literature and to the Newspapers on matters regarding Military and Civil law. To the end of his days, he still kept up the character of a student, devoting his whole energy and thoughts to the study of Metaphysics and Philology, having, as he said, become tired of Theology, a subject to which in former days he had given much attention. He took a great interest in the prosperity of the Bombay Branch of the Royal Asiatic Society and was ever ready to volunteer his services for its support and improvement.

Those who were not intimately acquainted with General Vans Kennedy, would not conceive that under so cold an exterior, could exist such powerful feelings of affection and humanity as he possessed. Without the least regard to himself, he was ever ready to assist with all his might any one whom he believed to be the victim of injustice or oppression. He was careless of money and comfort, and was so liberal with what he had, that he was continually involved in pecuniary difficulties. At the same time he was most regular and punctual in his habits. Rising early, he first took exercise in his garden, then read the papers of the day and periodicals until breakfast time (about 8 A. M.); after this until dinner (about 4 P. M.) he engaged himself in his official duties and in attending to the more laborious part of his studies, devoting the evening to reading of a lighter character. His diet was abstinent and his hour of retirement early, and his health so good that he has been heard to say that he did not require to see a medical man for years together.

The duties of Judge Advocate General of the Bombay Army were

discharged by him up to the year 1835, when some misunderstanding having arisen between Sir John Keane and himself, he was removed from the appointment; but subsequently, on a Memorial to the Hon'ble the Court of Directors, was nominated Oriental Translator to Government, the duties of which Office he continued to perform up to the time of his death, which took place at his house in Bombay on the 29th of Dec. 1846. On the following morning his remains, attended to the grave by the principal people of this island, were interred in the European Burial Ground at Backbay with the Military Honors due to his rank.*

The following is a list of General Vans Kennedy's publications.

An Essay on Persian Literature.—*Transactions of the Lit. Society of Bombay*, Vol. II. 1819, London.

Remarks on the Chronology of Persian History previous to the conquest of Persia by Alexander the Great.—*Ditto*.

Notice respecting the Religion introduced into India by the Emperor Akbar.—*Ditto*.

Remarks on the State of Persia from the Arbela in A. C. 331 to the Rise of Ardeshir Babegan in A. D. 226.—*Ditto*, Vol. III.

Remarks on the 6th & 7th Chap. of Mill's History of British India, respecting the Religion and Manners of the Hindus.—*Ditto*.

Remarks on the Character of Muhammad.—*Ditto*.

A Dictionary of Maratha and English, and English and Maratha.—225 p. *Foolscap fol.* Bombay, 1824.

A Translation of the Legend of Jalandhara, 2 Parts.—*Quarterly Oriental Review*, Vol. IV. & V. 1825-26.

Researches into the Origin and Affinity of the principal Languages of Asia and Europe.—324 p. 4to. London, 1828.

An Abstract of Mohammedan Law.—*Journal R. A. S.* Vol. II. 1835.

Researches into the Nature and Affinity of Ancient and Hindoo Mythology.—494 p. 4to. London, 1831.

* See the Resolutions passed by the Bombay Branch of the Royal Asiatic Society on the occurrence of Major Gen. Kennedy's death, in this No. of the Journal. Art. XV.—*Extracts from the Proceedings &c.* for January 14th and February 4th 1847.

Remarks on the Vedanta System.—*Transactions of Royal Asiatic Society*, Vol. III. 1894.

A Treatise on the Principles and Practice of Military Law—378 p. 8vo. *Bombay*, 1892. 2nd & Revised Edi. 1847.

Five Letters on the Purans, with reference to the views of H. H. Wilson Esq.—*Asiatic Journal*, Vol. XXII. XXIII. & XXIV. 1834—40.

He is said also to have made a translation of the Diwan of Hafiz, but I believe it was never published.

*** For most of the facts on which the above sketch is founded I am indebted to Col. Ogilvie, and to C. J. Erskine Esq. C. S. whose father was an intimate friend of the deceased.

APP. XIII.—Literary and Scientific Notices.

The Society is indebted to the Editor of the *Journal of the Indian Archipelago* for Nos. 1 to 6 of that interesting Periodical. The Ethnology, Statistics, and Conchology of those interesting regions have met with able and laborious students in the contributors to this Journal. On the first of these subjects, besides some general remarks in No. 4, there is a long article in No 5 chiefly devoted to a history of the manners and customs of a rude tribe in the interior, called the *Binuas*. While another of these tribes, the *Bermun* tribe, is perfectly atheistical, the *Binuas* are theists. The author hesitates as to whether their religious ideas are to be traced to the Hindus or Mahometans. If *Pirman*, the substitute for *Brahma*, the Supreme Being, were the only word where a connection could be discovered, we might remain undecided; but when we have *Devâdewâ*, intercessors and mediators between man and the Supreme, and *Bumi* the earth, also an inferior divinity,—names which are used every where among the Hindus to this day in the same sense essentially as among the theists,—all our hesitation ceases.

The article on the Statistics of the Dutch settlements ought to shame some of us nearer home in regard to the way this subject has been neglected among ourselves, and the article on the *Conchology* of a region so rich in treasures of this kind, must be read with interest by all who love to survey the shining wonders of the deep.

THE GERMAN ORIENTAL SOCIETY.

A Society was formed under the above-mentioned name (*Deutsche Morgenländische Gesellschaft*) in October, 1845. It is under the especial superintendence of Professors Roediger, Pott, Fleischer, and Brockhaus.

We are indebted to the courtesy of the Society for copies of the first Annual Report and the two first issues of their Journal.

The objects contemplated by this important Society are,

1. To collect MSS. and printed works, and productions of nature and art, connected with the East.
2. To publish, translate, and digest Oriental works.
3. To issue a periodical.
4. To support undertakings for extending our knowledge of the East.
5. To correspond with similar learned Societies and individuals.

The Journal of the Society (*Zeitschrift der Deutschen Morgenländischen Gesellschaft*) is to be issued four times a year. The well-known and valuable Journal edited by Prof. Lassen merges in the above, which is to enjoy the aid of the learned professor.

In the 1st No. of the *Zeitschrift*, we have a long article by Professor Ewald on a collection of Ethiopic MSS. sent by Dr. Krapf, several of which were hitherto unknown. This is followed by an article on "The nations and languages southward of Ethiopia", by the same distinguished scholar. Another long and interesting article is on "Brahma and the Brahmans", by Dr. R. Roth.

In the 2nd No. we have the commencement of an eloquent and powerfully-written article by Professor Neumann, of Munich, on "Sinologists and their works," commencing with Dr. Morrison, to whom warm, although not indiscriminating, praise is given. Dr. Pruner of Cairo contributes a lively "Aphoristic sketch" on "the Negro". We have next the "Plan of a Colonial Commercial Establishment in the East Indian Archipelago," by Dr. Selberg, the *practical* character of which took us rather by surprise, and for which the Editors half apologise, while yet they express their strong desire for Germany to have "a direct and enduring connexion with the East". Other articles of interest are given. The whole concludes with a number of literary notices; of which one of the most im

portant for us in Bombay, is an announcement that Dr. F. Spiegel, already well known as a Persian scholar, is employed on the Zendavesta, and a Grammar of the Pazend.

We have among the advertisements in the *Zeitschrift*, an announcement of the Mahābhārata being about to appear in "a complete critical translation," by Theodor Goldstücker. This will be an important contribution to Oriental literature.

We have been thus somewhat minute in our notice of the "Journal of the German Oriental Society", as we cannot doubt it will prove one of the most important means we possess of Oriental investigation. Germany has done much in this cause, and seems preparing to do more.

THE AMERICAN ORIENTAL SOCIETY.

We acknowledge with thanks the receipt of the 3rd No. of the Journal of this Society, which is for 1847. It contains a "Treatise on Arab Music", translated by the Rev. Eli Smith from a native work; "Notes on Arakan"; "Three chapters of Genesis in the Soahelee language, by the Rev. Dr. Krapf", with an introduction by W. W. Greenough; Reviews of Mons. Burnouf's *Introduction à l'histoire du Bouddhisme Indien*," and of Lassen's *Indische Alterthumskunde*, both by Prof. E. E. Salisbury, of Newhaven. Subjoined are various literary Notices, the most important of which is a Statement of the progress hitherto made in the decyphering of the Himyaritic Inscriptions, with the Alphabets proposed by Fresnel, Gesenius, and Roediger.

The "American Oriental Society" has sustained a great loss in the death of its late learned President, John Pickering Esq., of Boston; but we rejoice to see that it is still carried on with zeal and ability.

MEDICAL AND PHYSICAL SOCIETY OF BOMBAY.

No. VIII. of the *Transactions of the Medical and Physical Society of Bombay*.—In this No. we have observed some remarks by Assistant Surgeon Carter, on the Freshwater Sponges in the Tanks of Bombay. The Author states, that there are four distinct species to be met with; and after describing them specifically, alludes to their structure and animality.

In a subsequent communication to this Society, he observes, that in

his Notes published in the Journal to which we have alluded, he has confounded two species under the head No. 2, and that the bright green colored species there mentioned, is distinguished from all the rest by having a crust of double pointed smooth spicula round its seed-like bodies. He supposes this to be *Spongia lacustris* (Lin.), *Spongilla friabilis* (Lam.).

Further, he observes respecting the animality of the Freshwater Sponges, that the animals of which they are but a congeries, are identical with the infusorium *Proteus*. 1st because they are composed of a semi-transparent gelatinous matter. 2nd because this gelatinous matter is endowed with the power of altering its shape and of locomotion. 3rd because in it are seen transparent cells (*contracting vesicles*) of various diameters from 1-9000th part of an inch to a mere point, (which he formerly supposed to be sphinctral orifices) dilating and contracting themselves as in other animalcules. And 4th because this gelatinous matter is provided with greenish yellow granules moving with, and especially characteristic of both the *Proteus* and the animal of the sponge.

He regards the *Proteus* as being more active in changing its shape, &c. than the animals of the sponge when first torn from each other, from the habits of the former having been vagrant perhaps from the commencement, and its full development thereby having been unimpeded, and states, that the *Proteus* feeds upon its like as well as upon other matter, enclosing its food within its own substance after the manner of the *Hydra*.

While examining the transparent border of a portion of sponge growing from the seed-like bodies, he has observed the contracting vesicles distinctly, and a little within this, the animals themselves distinguishable, though amassed together and ever changing their form, but he does not appear to have ever seen them enclose an object within their substance after the manner of the *Proteus*.

In the development of the contents of the Sphorangia or seed-like bodies, he observes, that when the latter are opened under water in a watch-glass the transparent cells within them having been eliminated, swell and burst by imbibition (*endosmose*) of that fluid; and that then the true ova of the Sponge with which they are filled, spread themselves over the surface of the vessel. Each ovum appears, not to be globular or ovoid as he formerly supposed, but discoidal, very much resembling

in size and appearance the globules of the blood, it being only when they are turned on their edges that they appear ovoid. The red spot in their centre he also now thinks to be an optical illusion, while he has every reason to believe that the ovum retains its planiform state until its transparent vesicles and granules have become developed and the power of locomotion in it fully established.

**ART. XIV.—*Report on the State of the Society's Museum*
1845.—By A. B. ORLEBAR, M. A., *Secretary of the Museum*
*Committee.***

The object of the following Report is to bring the state of the Museum before the notice of the public, for whose benefit the Society undertook to form it. It was originally instituted with the view that all classes might derive instruction from visiting it, and that all the Educational Establishments in this Island might share in its advantages; at the same time it was expected that all engaged in teaching, would join in supporting and improving it. That the Society's liberal design however, has not been generally understood is much to be feared, while it is hoped, that the present advanced state of its Museum when sufficiently made known, will prove that the laudable object for which it was instituted has not been disregarded, that it is attainable and that the collections only require to be a little increased and a little more attention given to their arrangement to render the Museum capable of affording all the information it was originally intended to convey.

During the past year the "Propositions" of 1840, relating to the Museum, have been steadily kept in view. They are the following;—

1st.—To make a general collection of such specimens in the various branches of Natural History, as would afford means of study to beginners and of comparison to students.

2nd.—To make such local collections from the Presidency and other places ordinarily visited by its residents as would fully exhibit the peculiarities in nature and art both of India and the neighbouring countries.

To effect the first purpose, the shells possessed by the Society were

arranged early in 1841 according to the system of Lammark; so that any person now by taking Lammark's *Histoire Naturelle* in hand, and comparing his descriptions with the labelled specimens, may obtain a knowledge of *Conchology* sufficiently accurate for any practical purpose.

During the past year, the collection of minerals generally has also been undergoing a systematic arrangement; the most difficult part has been accomplished, and had not the attention of your Secretary been drawn away to other parts of the Museum by the numerous donations made to it, it would have been completed some months back.

The Serpents, Fish, and Corals, as yet remain unarranged.

CONTRIBUTIONS TO THE MUSEUM.

Our collection of *Perim* fossils is very extensive, and although no additions have been made to it during the past year, yet there is no doubt, that if any member would apply himself to their examination, and arrangement, it would richly repay him for his trouble and end by inducing gentlemen who have the opportunity, to forward large supplies from the extensive fossiliferous deposits which we now know to be continued on far beyond that little Island.

Our collection of specimens from *Cutch* is still small.

Sindh has contributed several fossils during the past year, and this division forms the richest part of our collection.

Dr. Spilsbury, Dr. Malcolmson, and Dr. Bradley, have also made us rich in fossils from the extinct lakes of *Central India*.

Our collection of *Granitic*, *Trap* and other *Plutonian* rocks with their minerals from all parts of India is very great, and during the past year has been increased by some valuable specimens from the *Trap formations*.

In addition to collections from *India*, we have been forming others from *Egypt*, *Arabia*, and the *Persian Gulf*.

Small local collections of Shells from the mainland of India and from Bombay Harbour, the Red Sea, Aden, and Zanzibar, are also under formation. It is hoped that a marine *fauna* of all these localities may soon be completed, to afford both a study to Naturalists who may visit us, and a valuable source of instruction and useful relaxation to those whose duties may afterwards lead them to the places from which the collections have been made.

The Society has resolved to confine its *Zoological collection* to the skeletons and less perishable parts of animals, as the difficulty of preserving the more delicate tissues is now too great to be overcome in a satisfactory manner. It will notwithstanding be thankful for all donations, as it proposes to send presents to Societies out of India, with the hope of being able to effect exchanges which may be generally advantageous to the Museum.

The antiquities of India do not yet occupy much room in the Museum. But one very valuable illustration of a Religion, whose remains are of the deepest interest to the students of Indian History, now occupies one of our cases, viz. the donation from Sir H. Pottinger of a set of figures exhibiting the punishments in the *Buddh Tartarus*, faithfully copied from a Chinese temple belonging to that persuasion.

ART. XV.—*Extracts from the Proceedings of the Society.*

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 3d of July, 1845.

Read and approved the minutes of the last meeting.

The following gentleman was proposed as a member of the Society, to be balloted for at its next meeting, viz. The Rev. A. Fraser, by John Peet, Esq., seconded by the Secretary.

Read a letter from R. Clarke, Esq., Honorary Secretary, Royal Asiatic Society, acknowledging the receipt of the *Yacna*, *Visparad*, and Nos. 1, to 7. of the Society's Journal.

Read a letter from Dr. Thomas Hodgkin to Manockjee Cursetjee, Esq., relative to the establishment in London of the *Philological and Ethnological Societies*, for the purpose of investigating the physical character, history, and present condition of the different nations and tribes of the human race; and requesting the co-operation in this learned task, of all Societies and individuals in the East capable of collecting and diffusing the requisite information. Dr. Hodgkin remarks, that although much has been done by learned men in the East and by others in Europe for the investigation of Asiatic History, the tribes and languages are yet so numerous and the obscurity of the subject so great,

that much remains to be done, which can only be effected by able workers in the country where the necessary enquiries can be satisfactorily conducted. The letter further makes allusion to Dr. Stevenson's *Essay on the Language of the Aboriginal Hindus*, published in No. III of the Society's Journal, and recommends the continuation and extension of the same subjects relative to the various tribes of India.

The following donations were laid on the table:

TO THE LIBRARY.

By the Honorable the Court of Directors of the East India Company. Lieut. Col. Edward Sabine's Magnetical and Meteorological Observations for the years 1840, 1841 and 1842, made at the Observatory of Toronto in Canada.

The Secretary then submitted a paper entitled, "The travels of *Kumal-ad-din Abd-al-Rizak* from Persia to India in A. D. 1842," containing an account of the then flourishing city of *Bijanagar*. Translated from the Persian of the Author in the *Motlaa-as-Sadein* and illustrated with notes by James Bird, Esq.

Resolved that the thanks of the Society be given for the donation and paper presented.

Notice of the following motions to be brought before the next meeting of the Society was given.

1st.—That the London, Edinburgh, and Dublin Philosophical Magazines and the Literary Gazette discontinued by the Society, be re-ordered from Home.

2nd.—That the resolution relative to the payment of subscriptions by newly elected members of the Society, carried at the meetings of the 27th March and 24th April 1839 be abrogated, and that Art. XXV of the Society's Rules be acted on, in order to simplify the collection of subscriptions and the accounts of the Society.

The meeting was then adjourned to Thursday the 14th of Aug. 1845.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 14th of August 1845.

The minutes of the last meeting were read and approved of.

The Rev. A. Fraser proposed at the last meeting, having been balloted for, was unanimously elected a member of the Society.

Professor Harkness intimated, that E. Lyon, Esq. who was proposed a member of the Society, having become aware of circumstances which would compel him very shortly to return to England, begged to withdraw his name.

H. Conybeare, Esq., proposed as a subscriber to the Library by the Rev. G. Pigott, seconded by the Secretary, was admitted agreeably to the Regulations.

The following gentlemen were proposed as members to be ballotted for at the next meeting;—viz. Robert Burn, Esq., by John Smith, Esq. seconded by Dr. James Burnes, K. H., and H. Conybeare, Esq., proposed by Professor Harkness, seconded by Dr. James Burnes, K. H.

With reference to a note from Major General Kennedy, it was resolved, that directions be given to have the copies of the new Catalogue stitched and covered as originally ordered by General Kennedy, and that when ready they be forwarded to the Library, where they may be had on application to the Librarian, at Rs. 3½ each.

Proposed by Dr. James Burnes, K. H., seconded by P. W. LeGeyt, Esq. and unanimously carried :—

That the best thanks of the Society are due to Major General Vans Kennedy, for the ability and zeal with which he has so disinterestedly undertaken and executed the laborious task of preparing and carrying through the press, the Catalogue now on the Table.

The following donations were laid on the table.

TO THE LIBRARY.

A Dictionary of the Amharic Language in two parts, Amharic and English, and English and Amharic, by the Rev. C. W. Isenbergh.—Presented by the Author.

A Grammar of the Amharic language, by the Rev. C. W. Isenberg. Presented by the Author.

Adumbratio Historiæ Mundi Amharice, or a sketch of universal history in the Amharic language, by the Rev. C. W. Isenberg.—Presented by the Author.

Regni Dei in terris Historia Amharice, or History of the kingdom of

God in the Amharic language, by the Rev. C. W. Isenberg.—Presented by the Author.

A Vocabulary of the Galla language, compiled by the Rev. J. L. Krapf.—Presented by the Author.

St. Matthew's Gospel in the Galla tongue, translated by the Rev. J. L. Krapf.—Presented by the Author.

By the Medical Board under sanction of the Honorable the Governor in Council.—A Report on Small-pox and Vaccination in Bengal, 1844; and Medical Topography of the Northern Hyderabad and Nagpore Divisions, the Tenasserim Provinces and the Eastern Settlements.

By the Asiatic Society of Bengal.—A Dictionary of the Technical Terms of the Sufies, edited in the Arabic original by Dr. Aloys Sprenger, of the Bengal Medical Service.

Presented through Professor Harkness.—Seven Inscriptions collected at Kolapur by Bal G. Shastree, Esq., who has added an English translation of one, and various explanations and remarks in regard to the others.

Presented by Professor Orlebar.—A paper on the Geology of the Egyptian Desert.

The Secretary was directed to forward the thanks of the Society, for the different donations and papers, and the meeting was adjourned to Thursday the 11th of September, 1845.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 11th of September, 1845.

The minutes of the last meeting were read and approved of.

Robert Burn, Esq., and H. Conybeare, Esq., proposed as members of the Society at the last meeting, were balloted for and duly elected.

Jaganath Sankarsett, Esq. was proposed as a resident member of the Society, by W. Howard Esq. seconded by P. W. LeGeyt, Esq.,

Read a letter from E. H. Townsend, Esq., Secretary to Government, accompanying a copy and translation of a list of Persian and Arabic Manuscripts at Bijapur; forwarded by Government for the information of the Society. In the collection are many rare works on Mahomedan Law, which are believed to be in a good state of preservation.

The following papers were read:—

1st. Notes on the Gara Tribe made during the survey of the south-east Coast of Arabia in 1844-45, by Assistant Surgeon H. J. Carter, of the Honorable Company's Surveying Brig *Palinurus*.

2nd. Extracts from a Journal kept during the survey of the Red Sea, by Capt. (then Lieutenant) Carless, I. N. Assistant Surveyor.

The thanks of the Society were unanimously voted to H. J. Carter, Esq., and to Capt. Carless for their interesting communications, which will appear in an early number of the Society's Journal.

The following donations were laid on the Table:

TO THE LIBRARY.

From Government.—Report of the Board of Education for the year 1844, three copies.

From the Chamber of Commerce.—Report of the Bombay Chamber of Commerce for the third quarter of 1844-45.

TO THE MUSEUM.

From Dr. Grierson, by Professor Orlebar,—some fossils collected in Sindh.

Thanks were ordered to be returned to the respective Donors, and the meeting was adjourned to Thursday the 9th of October, 1845.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 9th of October, 1845.

The minutes of the last meeting were read and approved of.

The ballot for the election of Jaganath Sankarsett, Esq. was unavoidably postponed, there being only eight members present, ten being required by the laws of the Society in all ballots for the election of members.

The following paper was read;

By the Author.—*Memorandum* of the Great Comet of 1844-45, by William Pole, Esq., F. R. A. S., Professor of Civil Engineering in the Elphinstone College. The thanks of the Society were unanimously voted to the Author for his acceptable communication, which will appear in an early number of the Society's Journal.

The following donations were laid on the Table:

TO THE LIBRARY.

From the Author.—*Zeitschrift für die Kunde des Morgenlandes*, von Chr. Lassen, Phil. Dr. A. A. L. L. Mag.

From the Author.—*De Taprobane Insula Veteribus cognita Dissertatio*, by Chr. Lassen, Phil. &c.

From Col. Griffith.—Digest of the Reports made by the Commissioners into Charities.

From the Society for the promotion of knowledge through the medium of the Vernacular Languages.—Prospectus and Proceedings of the Society.

From Government.—Transactions of the Medical and Physical Society of Bombay for 1844.

Thanks were ordered to be returned to the respective Donors of the above presents and the meeting was adjourned to Monday the 24th of Nov. which being the Anniversary of the Society, the Office-bearers and Committee of Management for the ensuing year will then be elected—the latter by ballot, according to the rules of the Society.

At the Anniversary Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Monday the 24th of Nov. 1845.

The minutes of the last meeting were read and approved of.

Jaganath Sankarsett, Esq., a member of the Royal Asiatic Society of Great Britain, proposed at a former meeting to be a resident member of the Society, was balloted for and duly elected.

Assistant Surgeon Heffernan, H. M.'s 47th Regiment, proposed a subscriber to the Library by the Rev. G. Cook, seconded by the Secretary, was admitted agreeably to the Rules.

The Society then proceeded to the nomination of its Office-bearers, and a ballot being taken for the election of ten members of the Managing Committee, the following gentlemen were duly elected for the ensuing year, viz:—*Dr. Morehead, W. Howard, Esq., S. Dickinson, Esq., Professor Harkness, Captain H. B. Turner, Rev. G. Cook, J. L. Phillips, Esq., J. Peet, Esq., R. W. Crawford, Esq., and Captain H. B. Lynch.*

The President, Vice-Presidents and Secretary were continued in Office, agreeably to the rules of the Society.

R. W. Crawford, Esq., Captain H. B. Turner, Professor Orlebar, and the Secretary, were nominated a Committee to audit and report on the accounts of the Society.

The following donations were laid on the Table :

TO THE MUSEUM.

1st. From the President the Hon'ble J. H. Crawford.—A collection of Egyptian Relics and Geological Specimens, from the valley of the Nile and country in its neighbourhood.

2nd. Geological Specimens from the Southern Mahratta Country and Konkan.—By Lieutenant Suart of the Engineers.

3rd. Geological Specimens in illustration of the extinct lakes of India from the Gowel-Ghar Hills.—By Dr. Bradley.

4th. Fossil shells from Sindh.—By the Rev. G. Pigott.

5th. Shells from Johanna and Malwan Iron Ore.—By Dr. Grey.

6th. Coral from the African Coast. By R. X. Murphy, Esq.

7th. Specimens of fossil fish from Mount Lebanon.—By Major G. Jamieson.

TO THE LIBRARY.

1st. Report of the Superintendents of Roads and Tanks for the year 1843-44.—Presented by the Government.

2nd. The Hon'ble Mr. Justice Perry's Charge, delivered to the Grand Jury of Bombay, September the 25th, 1845.—By the Author.

Read a letter from Professor Chr. Lassen of Bonn, acknowledging the receipt of the Society's Journal (No. VIII), and thanking the Society for this acceptable and valuable gift.—The letter further noticed, and highly approved of the proceedings of the Society in collecting and publishing *Ancient Inscriptions* relative to India; such being the only authentic documents of information *on the former condition of it and the history of past times*.

Read a letter from Edwin Norris, Esq., Deputy Secretary of the Royal Asiatic Society of London, presenting a vocabulary of the *Makna Language* spoken on the African Coast of the Mosambique Channel.

Read a letter from Dr. Charles William Ball, Professor of Hebrew in the University of Dublin, on the subject of *Humyatic Inscriptions* from Southern Arabia,—to which he is disposed to assign no higher antiquity than the fourth century of our era, from the circumstance of the letters being separated into distinct groups; it being ascertained that spaces between the words in any Greek writing are not older than the seventh century, and there is no reason to suppose that either the *Ethiopians* or *Arabians* arrived at this improvement in writing earlier than the Greeks.

Professor A. B. Orlebar, Secretary to the Museum Committee, submitted a report on the present state of the Museum, and remarked, that the objects for which it had been instituted had been steadily kept in view during the past year, and were rapidly progressing towards fulfilment. These were,—1st to make a general collection of such specimens in the various branches of *Natural History*, as would afford means of study to beginners and of comparison to students.—2nd, to make such local collections from the territories under the Bombay Presidency and other places visited by travellers from Bombay, as would at once exhibit the peculiarities of *nature and art*, both in India and the neighbouring countries. The report will be published in an early number of the *Journal*.

The meeting nominated Professor J. Peet and C. J. Erskine Esq., to supply the places of the Rev. G. Pigott and H. B. Frere Esq., as members of the Sub-Committee for the Museum.

Mr. Orlebar further presented a learned paper of Observations on *Solar Spots*, made between the 31st December and the commencement of the S. W. Monsoon of 1845.

The Secretary then read part of a Discourse on Arabia and the Arabs.

The thanks of the Society were accorded to the various Donors, and the meeting adjourned to Thursday the 11th of December, 1845.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 11th of Dec. 1845.

The minutes of the last meeting were read and approved of.

The following Gentlemen were proposed as members of the Society to be balloted for at its next meeting.—viz. M. Stovell, Esq., proposed

by the Secretary seconded by Captain H. B. Turner.—Dr. J. Don, proposed by the Secretary, seconded by Dr. Burns, K. H.—E. I. Wallace, Esq., Barrister, proposed by A. S. LeMessurier Esq., seconded by the Secretary.

It was proposed by Manockjee Cursetjee, Esq. Dr. Burnes, K. H. and James Bird Esq., Secretary, and carried unanimously, that the names of James Cowles Prichard, M. D. F. R. S. of Bristol, and Thomas Hodgkin, M. D. F. R. G. S. of London, be placed on the list of *Honorary Members* of the Society.

The following donations were laid on the Table:

TO THE MUSEUM.

1st. Two Jain figures from Katiawar.—By Dr. Nicholson, Civil Surgeon, Rajcote.

2nd. Specimens of large bricks dug from below the mounds which mark the ruins of the ancient city of *Vamilapura* in Kattiawar.—By Ditto.

TO THE LIBRARY.

Report of the Bombay Chamber of Commerce for the fourth quarter of 1844-45.—By the Secretary of the Chamber of Commerce.

Professor Orlebar presented a series of Tables calculated at the Observatory from those by Major Boileau, in order to enable *Meteorologists* to find immediately from each observation of the wet-bulb Hygrometer, the amount of moisture in the air and its pressure. They will enable observers readily to find the correction required for Barometric observations on account of moisture.

The Secretary then read an interesting letter from His Excellency Major General Sir Charles Napier, G. C. B. Governor of Sindh, acknowledging with sincere thanks, the Society's attention in presenting through him for the use of the Sindh Association, the 1st volume of their Journal. The letter pointed out in a graphic and luminous manner the recent improvements which had been made in the construction of *Bunds*, to keep the waters of the Indus within proper channels and thus reclaim large *swamps* from the inundations of the river, which, annually overflowing, produces marshy and unhealthy localities affecting

the health of the Troops and the inhabitants. One of these *Bunds*, thirty miles in length, had been lately constructed between Sukkur and Shikarpur, in order to prevent the superfluous water of the river flowing into an unhealthy *basin* in that neighbourhood ; to the construction of which Sir Charles is disposed to attribute the superior healthiness of the Troops stationed at Sukkur for the past year, compared with the amount of sickness among them during previous seasons ; but carefully notes, that the experience of future years is requisite to establish the correctness of this opinion. Sir Charles further enumerates the productive capabilities of Sindh as a mineral and agricultural district. In return for this obliging communication, it was moved by James Bird, Esq., *Secretary* of the Society, seconded by James Burnes, K. H. *Vice-President*, and carried unanimously—"That the Society have received with the greatest satisfaction His Excellency Sir Charles Napier's highly interesting letter now read, and with his permission will include it in the next number of their Journal."

The thanks of the Society were then accorded to the various Donors, and the Meeting was adjourned to Thursday the 15th of January, 1845.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society held in its Library on Thursday the 15th of Jan. 1846.

The minutes of the last meeting were read and approved of.

The following gentlemen were proposed as members of the Society, to be ballotted for at the next meeting.—viz. Lestock Reid, Esq., and Charles James Davies, Esq., of the Civil Service, by the Hon. L. R. Reid, seconded by the Secretary.

The following donations were laid on the Table:

TO THE MUSEUM.

Minerals from Katiawar.—By Dr. Nicholson, Civil Surgeon, Rajkote.

TO THE LIBRARY.

Grammaire Persanne de Sir William Jones, seconde edition Francaise revue, corrigée et augmentée, Par M. Garcin De Tassy, Membre de l' Institut Royal de France, etc.

The Secretary then read a note from the Rev. Dr. Stevenson, accompanied by a Devanagri transcript of the great inscription from the Bauddha Caves of Nasick, with an English translation which records that the Cave was appointed for the gods and Brahmans, to mortify the passions; and was excavated at the expense of the lord *Dinika*, son of the *Kisbaparadita*, ruler of the Kshatriya tribe and protector of men. The inscription further records that the constructor of this holy place gave one hundred thousand cows along with the river *Banasa* and a gift of gold on the occasion of its dedication; and sings its praises as a more desirable place of pilgrimage than *Prabhasa* (Somnath,) the holy Gaya, the Bauddha monastery of the city *Pratisraya*, or even the edifice by *Depankora* on the shore of the fresh-water sea. The date of this Inscription seems also to be mentioned under the astronomical position of the sun and planets, at the period of the gift before mentioned.

The thanks of the Society were accorded to the various Donors, and the Meeting adjourned to Thursday the 12th of February, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 12th of February, 1846.

The minutes of the last Meeting were read and approved of.

M. Stovell Esq., Dr. J. Don, E. J. Wallace Esq., Lestock Reid Esq., and C. R. Davies, Esq. C. S. duly proposed and seconded as Members of the Society at former Meetings, were ballotted for and unanimously elected.

Dr. Ogilvie M. D., Assistant Garrison Surgeon, was proposed as a Member of the Society by Dr. Burnes, K. H. seconded by the Secretary.

The following donations were laid on the Table:

TO THE MUSEUM.

1st. From the President, the Hon'ble J. H. Crawford; a further collection of Egyptian Relics and Geological Specimens from the valley of the Nile.

2d. Specimens of Minerals and Plants at Aden. Presented by J. P. Malcolmson Esq.

TO THE LIBRARY.

1st. A Supplement to the Glossary of Indian Terms used in the North Western Provinces. By H. M. Elliot, Esq., of the Bengal Civil

Service, accompanied by a note to the Secretary, requesting to be favored with any comments on the present or suggestions for a future volume, which may be deemed necessary.

2d Abdul Rizak's Dictionary of Technical Terms, used by the *Sufies*, edited in the Arabic original by Dr. Aloys Sprenger, of the Bengal Medical Service. Presented by the Asiatic Society of Bengal.

3rd. The Bengal Pharmacopœia by W. O. O'Shaughnessy, M. D. F. R. S., Bengal Medical Service; and Pathologia Indica, by A. Webb, Esq. Bengal Medical Service. Presented by the Medical Board.

4th. *Icones Plantarum Indiæ Orientalis*, by R. Wight Esq., M. D. F. L. S., of the Madras Medical Service, Vol. III part 3. Presented by Government.

5th. Circular Orders of the Sudder Dewanee Adawlut of Bombay, for the years 1843 and 1844.—Presented by Government.

The thanks of the Society were accorded to the various Donors, and the Meeting adjourned to Thursday the 12th of March, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society (postponed from the 12th of March), held in its Library on Wednesday the 8th of April, 1846.

The minutes of last Meeting were read and approved of.

G. Ogilvie, M. D., Assistant Garrison Surgeon, duly proposed a Member of the Society and seconded at the last meeting, was ballotted for and unanimously elected.

His Excellency Monsieur de Lagréné, French Ambassador to China proposed an Honorary Member of the Society by the Secretary, J-Bird, Esq., and the *Vice-Presidents*, Dr. Burnes, K. H. and Col. Jervis, was duly elected in accordance with Art. III of the Regulations.

Col. Jervis, seconded by Dr. Burnes, K. H., moved that a deputation consisting of those who brought forward the forgoing proposition should wait on His Excellency Monsieur de Lagréné, and announce to him his election as Honorary Member of the Society. The proposition was unanimously carried.

On the proposal of Dr. Burnes, K. H.; seconded by Col. Jervis, it was unanimously resolved—That His Excellency should be presented with a complete copy of the Society's Journal from its commencement.

The Hon'ble James Henry Crawford, *President* of the Society, having resigned his Office consequent on his intended departure for Europe by the Mail of the 1st May next, it was proposed by the Secretary, seconded by Col. Jervis and carried unanimously—That the Society record the high sense of obligation it is under to their late *President*, for the devoted zeal and attention he has bestowed on the financial affairs of the Society, for the interest he has at all times manifested in promoting its literary objects and exertions, and for his liberal donations at various times to the Museum.

Moved by Major General Barr, seconded by Col. Dunsterville, and carried unanimously—That the Hon'ble Lestock Robert Reid be requested to accept the office of *President* of the Society, become vacant by the resignation of the Hon'ble James Henry Crawford, returning to Europe.

A letter from the Deputy Secretary of the Royal Asiatic Society of London, relative to the re-publication of the "Bombay Literary Society's Transactions", as agreed on by the Society at its Meeting on the 15th January 1844, was submitted to the Meeting, upon which the Secretary was authorized to reply that in the present state of the Society's finances, with the required list of one hundred subscribers at Rs. 20 each, not filled up, the publication must be abandoned.

The following donations were laid on the Table:

TO THE MUSEUM.

1st. A Cobra de Capello, from W. Graham Esq.

2nd. A pair of horns from the "wild goat," inhabiting the hills bordering on the northern shore of the Persian Gulf, from Capt. C. Giberne, 29th Regt. N. I.

3rd. Specimens of *Algæ*, from Dr. Grierson.

TO THE LIBRARY.

1st. Appendix G. to the new Edition of Tredgold on the Steam Engine, being a Treatise on the *Cornish Pumping-Engine*; by W. Pole; F. R. A. S.; F. G. S.—Presented by the Author.

2nd. A collection of *Integral Formulæ*, translated from the German of Meyer Hirsch. Presented by J. Waterston, Esq.

3rd. Persian and Gujarati verses in praise of Ardaseer Dhunjeeshaw. Presented by Jehangeer Pochajee.

4th. Transactions of the Bombay Geographical Society from May 1844 to February 1846. Presented by the Society.

The *Secretary* then read an interesting letter from B. A. R. Nicholson, Esq., Civil Surgeon, Rajcote, containing notes on the Ruins of *Vamilapoor* or *Valabipoor*, near Bhao-Naggar in Khatiawar; which ancient city gives name to an era commencing A. D. 319; and which is mentioned, by the Arab Geographer Abdul Rihan-al-Bairuni, as commencing at the same period as the era of the *Guptis*, or 241 years after the *Shalivahana* year, which dates from A. D. 78.

The *Secretary* also read part of a paper on the Arabian system of Geography, translated by himself from the Introductory Chapter to the *Takwim al Baldan* of Abulfeda.

The thanks of the Society were accorded to the various Donors, and the Meeting adjourned to Thursday the 14th of May, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 14th of May, 1846.

The minutes of the last Meeting were read and approved of.

A letter from the Hon'ble L. R. Reid was read, expressing a deep sense of the honor conferred him on by the Bombay Branch of the Royal Asiatic Society in having elected him their President, and intimating his earnest desire to forward the interests and promote the objects of the Society to the utmost of his power.

A Memorandum from Sir William Harris was also read, accompanying a presentation to the Society of Charles Futschek's *Galla Grammar* and *Dictionary*, in the name of Dr. Roth of Munich; Dr. Roth has kindly volunteered his services to purchase any books required by the Society from Germany.

TO THE LIBRARY.

No. 1. A Grammar and Dictionary of the *Galla language*, by Charles Futschek; Edited by Lawrence Futschek M. D. Presented by Dr. Roth of Munich,

The Secretary then submitted a note from the Rev. J. Stevenson, D.D., accompanying his translation in part, of the *Kalpa Sutra*, the Scriptural book-authority for the *Jaina* religion. This was written by *Sri Badra Bahu Swami*, who states in his account of the 24th or last Jain Tirthankara called *Mahavira*, that he wrote 980 years after his apotheosis; from which Dr. Stevenson assumes the date of the work to be A. D. 453; while there is reason to suppose that the author of the *Kalpa Sutra*, otherwise called in tradition *Jaina Acharya*, was cotemporary with *Kikka Raja*, otherwise named *Raja Amoghversha*, whose date from Copper-plate grants is known to be Saka 894. A. D. 972.

A letter from the Rev. Dr. Stevenson relative to the astronomical date given in the great Inscription from the Baudddha Cave at Nasick, submitted at the January Meeting of the Society, was also read. In this, Dr. Stevenson states the date for the calculation to be the *Sun's Longitude* in the Hindu Ecliptic 10° , *Venus* 357° , and the Moon's *Ascending Node* somewhere between 60° and 90° ; from which he deduces the date of the Inscription to be B. C. 453.

The Secretary then submitted to the Meeting an English translation, by Ball G. Shastree Esq. of a Copper-plate Inscription in Sanskrit, found during the late Kolapoor campaign in one of the Hill-forts of that country. The date of the inscription is Saka 675, A. D. 753, and the grant of land recorded was given by *Danti Dargu Raja* son of Indra Raja, son of Kakka Raja, son of Govinda Raja, of the same family and race as *Raja Amoghaversha*, between whom and *Danti Durga Raja* the apparent founder of the family, other Copper-plate grants give a lineage of fourteen princes, bringing (on the supposition of twenty years to a reign) the origin of the family to nearly the period given in the present grant.

The thanks of the Society were accorded to the various Donors, and the Meeting adjourned to Thursday the 11th of June, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday, the 11th of June, 1846.

The minutes of the last Meeting were read and approved of.

Capt. J. H. G. Crawford, Engineers, proposed as a Subscriber to the Library by R. W. Crawford, Esq., seconded by Capt. H. B. Turner, was admitted agreeably to the Regulations.

The following gentlemen were proposed as Members of the Society, to be ballotted for at the next Meeting, viz. G. J. Blane Esq., C. S. by W. Escombe Esq. seconded by the Secretary of the Society; and A. Malet, Esq., Political Secretary to Government, by the Hon'ble John P. Willoughby, seconded by S. S. Dickinson, Esq.

Read an account by Assistant Surgeon W. J. Stuart, of a bird of the Swallow tribe (*Hirundo esculenta*,) of which a specimen, preserved in proof spirit, was presented for the Museum.

Read also an account, by the same gentleman, of the tree from which the gum *Kino* is procured in this country and of the mode of preparing it, accompanied by specimens of the gum and the wood of the tree from which it is procured.

The best thanks of the Society were accorded to Dr. Stuart for his valuable communications and presents.

The Meeting was then adjourned to Thursday the 9th July, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 9th of July, 1846.

The minutes of the last Meeting were read and approved of.

G. J. Blane, Esq. and A. Malet, Esq., Civil Service, proposed as Members of the Society and duly seconded at the last Monthly Meeting, were ballotted for and unanimously elected.

The following Gentlemen were proposed as members of the Society, viz. E. Down, Esq. C. S. by C. J. Davies Esq. C. S., seconded by the Secretary, and Capt. J. H. G. Crawford, Engineers, by H. B. Turner, seconded by R. W. Crawford, Esq.

A letter from Sir Erskine Perry, resigning his Office of *Vice-President*, was submitted to the Meeting.

A letter from the Marquis de Farrier-le-Vayer, accepting with thanks the mark of distinction conferred on him by the Society in electing him an Honorary Member, as communicated in its Secretary's letter of the 17th February, 1845.

A letter from the Curator of the Museum of the *Literary and Philosophical Society* of St. Andrews, dated the 29th May 1846, announcing that a donation from that Society of Geological Specimens and Minerals, in return for the contribution of the Indian Minerals sent

home by the Bombay Branch Royal Asiatic Society, had been shipped from Liverpool, on board the brig *Hesperus* for the latter.

James Bird, Esq. proposed by J. Burnes, K. H. seconded by Major Gen. Barr, was unanimously elected a *Vice-President* of the Society to fill the vacancy made by the resignation of Sir E. Perry, the former to retain his Office of Secretary of the Society in conformity to a similar proposition of the Bengal Asiatic Society, in which H. Torrens, Esq. was elected to the double Office of V. P. and Secretary,

The following donations were presented to the Society :

TO THE MUSEUM.

1st. From Assistant Surgeon F. Broughton, through the *Vice-President* J. Burnes, K. H., a skull from New Zealand, and some specimens of Lead and Copper ore from the mines of *Glen Ozman*, near Adelaide in South Australia, and from the *Montacute* mines in the same neighbourhood; also a specimen of the *Sphæria Robertii*.

2nd. From Capt. J. Young I. N. a collection of Birds' skins, from New Zealand. Presented through Professor Orlebar.

The Secretary then read some "Notes," by Assistant Surgeon H. J. Carter, on the great *Mahrah* Tribe of Southern Arabia; accompanied by a Vocabulary of the *Mahrah* Language and further "Notes" on the *Garah* Tribe.

A note from Professor Orlebar accompanying a description of the phenomena attendant on the annular Eclipse of 1840 in India, with computations and illustrations drawn up by Keru Luxuman, one of the Assistants at the Observatory, was also read.

The best thanks of the Society were accorded to the Donors of the above valuable presents and communications, and the Meeting was adjourned to Thursday the 13th of August, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 13th of August, 1846.

The minutes of last meeting were read and approved of.

E. Down Esq., C. S. and J. H. Crawford, of the Engineers, proposed as Members of the Society and duly seconded at the last Meeting, were ballotted for and unanimously elected.

The following gentlemen were proposed and duly seconded as Members of the Society, Capt. Curtis, by W. Escombe Esq., seconded by W. H. Harrison, Esq.; A. F. Bellasis Esq. C. S., by W. H. Harrison, Esq., seconded by W. Escombe Esq.; and Lieut. J. F. Jones, I. N. by Capt. H. B. Lynch, seconded by Capt. H. B. Turner.

Agreeably to the notice in the Monthly Circular, the proposal to have the Calcutta Review taken in from its commencement, was submitted to the Meeting; relative to which it was resolved—

That this proposition recommended by the *Committee of Management*, be sanctioned; in consequence of the Asiatic Journal (one of the periodical publications retained in the list adopted by the General Meeting held on the 13th of February 1846,) having been discontinued.

Read a letter from Sir Erskine Perry accompanying a present of copies of some of the printed minutes of the Law Commission with reference to a new Law Tribunal. Sir E. Perry regrets that it is not in his power to forward to the Society a complete series, as the views contained in them are especially applicable to India. The other part of the letter comments on the deficiencies that exist in the classes of works in the Society's Library, which refer to the Government of India and Oriental Literature.

The following donations were presented to the Society :

TO THE LIBRARY.

1st. From Sir Erskine Perry,—Minutes on Law Reform with reference to a New Tribunal.

2nd. From E. Wallace, Esq. Barrister at Law, Bombay,—A Map of the *Oregon Territory*, the subject of dispute between the British and United States' Government, with a Pamphlet on the controversy written by the Donor.

3rd. From the Government with a letter from W. Escombe, Esq.—A Copy of the Reports on the Roads and Tanks for 1844-45, drawn up by the Government Superintendent.

TO THE MUSEUM.

From the *Literary and Philosophical Society of St. Andrews*,

through Dr. Buist.—119 Geological Specimens and Minerals, chiefly from the County of Fife.

The best thanks of the Society were accorded for the various Donations, and the Meeting adjourned to Thursday the 10th of September, 1846.

At a Monthly Meeting of the Bombay Branch Royal Asiatic Society, held in its Library on Thursday the 10th September, 1846.

The minutes of the last Meeting were read and approved of.

Capt. Curtis, A. F. Bellasis, Esq. By. C. S. and Lieut. J. F. Jones, I. N. proposed as Members of the Society, and duly seconded at the last Meeting, were ballotted for and unanimously elected.

The following gentlemen were proposed as Members of the Society to be ballotted for at its Meeting viz.—T. S. Cowie Esq., proposed by R. W. Crawford, Esq., seconded by the Secretary;—A. Blackburn Esq. proposed by John Holland, Esq. seconded by R. W. Crawford, Esq.; and T. J. A. Scott, Esq. proposed by the *Vice-President* Col. Jervis, seconded by the *Secretary*.

The following donations were presented to the Society :

TO THE LIBRARY.

Memoirs of the Royal Astronomical Society of London. Presented by that Society.

TO THE MUSEUM.

From Capt. T. Johnson, Commanding the Ship *Recovery*, a large specimen of *Cheiroptera* from the island of Java.

A letter from Capt. P. T. French, dated Mundlaiser, accompanied by copy of an inscription in the round character of the Armenian, was also submitted. The stone from which the inscription was taken, was brought several years ago from Asseer, and records that it belongs to the tomb of *Sarkies, the son of Lagar Khoorsian of Jevan, who died suddenly on Ascension Day, the 17th June, 1181*. There is a second inscription in the same character on another stone, which is somewhat broken; a copy also of which Capt. French offers to forward to the Society.

A letter from W. Escombe Esq., Secretary to Government, presenting to the Society a copy of a *Prakrit* inscription, (taken from Copper plates found at *Oojein*), forwarded to Government by Assistant Surgeon E. Impey, was also laid before the Meeting.

The Secretary then submitted for examination a collection of undescribed *Parthian Coins* belonging to John Bowman, Esq. accompanied by Numismatic observations on leading historical points and peculiarities of this collection.

The best thanks of the Society were accorded for the various donations and presents, and the Meeting was adjourned to Thursday the 8th October, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 8th October, 1846.

The minutes of the last Meeting were read and approved of.

S. Cowie Esq., Andrew Blackburn, Esq. and T. J. A. Scott, Esq. proposed as Members of the Society and duly seconded at the last Meeting, were ballotted for and unanimously elected.

MUSEUM.

The following donation was presented to the Society by James Bird, Esq. viz. Ten silver Coins, being a part of four hundred lately found in a ploughed field near Shirouli, distant ten miles eastward of Narayan-goan, in the district of Junir. The Donor states that they are of *Vijaya Sah*, *Rudra Sah*, *Atri Dama*, and *Wiswa Sah*, four of the ten *Sah Rajas* of whom a nearly correct list was given by the late James Prinsep, Esq., that they will prove of great use in further investigation of the Sah dynasty, and their dates and Greek legends will afford considerable help in determining the relative position of these Princes to the *Valabhi* and *Gupta Rajas* of the fourth and fifth centuries of the Christian era.

The thanks of the Society were accorded to Dr. Bird, and the Meeting was adjourned to the 12th of November, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 12th of November, 1846.

The minutes of the last Meeting were read and approved of.

Members proposed; Lieut. G. F. Ashburner 8th Regt. N. I., proposed by Dr. James Burnes, K. H. V. P. and seconded by Major Holland.

Letters and Communications.—Letters were read from Major General Vans Kennedy and Professor Orlebar, respecting the merits of Mr. McCudden's work on Oriental Eras.

The Meeting adjourned to the 12th December, 1846.

At the Anniversary Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Monday the 30th November, 1846.

The minutes of the last Meeting were read and approved of.

Lieut. G. E. Ashburner, 8th Regt. N. I. proposed a Member of the Society and duly seconded at the last meeting, was balloted for and unanimously elected.

The Meeting proceeded to the election of *Office-bearers* for the ensuing year; on the proposition of Col. Jervis, *Vice-President*, seconded by J. Glen, Esq., the Rev. John Stevenson, D. D. was unanimously elected a *Vice-President* of the Society.

The *Committee of Management*, was then ballotted for, and the following gentlemen chosen, viz. Professor John Harkness, Capt. H. B. Turner, S. S. Dickinson, Esq., Rev. G. Cook, J. Glen, Esq., J. Don, M. D., C. Morehead M. D., Capt. H. B. Lynch, I. N.; W. Howard, Esq. and J. Scott, Esq.

The following gentlemen were also chosen as a *Committee for the Museum*: Professor A. B. Orlebar, Rev. G. Pigott, H. J. Carter, Esq. C. J. Erskine, Esq., Lieut. W. F. Marriott, and Capt. T. M. B. Turner.

The Meeting was then adjourned to the 10th of December, 1846.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 10th December, 1846.

The minutes of the last Meeting were read and approved of.

The Rev. P. Anderson, Chaplain, was proposed as Member of the Society by the Rev. G. Pigott, seconded by the *Secretary*, to be ballotted for at the next Meeting.

The Secretary submitted a letter from the chief Secretary to Government, transmitting ten printed copies of a despatch from the Honor-

able the Court of Directors to the Government of India, intimating that a *Statistical Department* had been formed in the Home Establishment, where all information relative to the Geology, Climate, Cultivation, and Agricultural Productions, Population, Commerce and Political Geography of the various districts in India will be received, arranged, and recorded for reference.

The Secretary was authorized to thank Government for the information communicated, and to state in reply that the Society is ready to promote the useful and interesting researches contemplated by the Honorable Court, and to aid in carrying out its object in any way which Government may propose.

The following donations were presented to the Society :—

A copy of the *Bhagavata Purana* lately printed in Sanskrit, at the Royal Press of Paris, under the superintendence of M. Eugene Burnouf, Member of the Institute of France. Presented and accompanied by a letter from the French Government to the *President* of the Society.

The Secretary was instructed to draft a letter of thanks for this most acceptable donation, and to acquaint Monsieur Lebrun, Director of the Royal Press of Paris, that copies of the Society's Journal from its commencement, will be forwarded in the name of the Society, for presentation to the *Royal Library*.

TO THE MUSEUM.

120 Specimens of Ores from Germany. Presented by J. Bowman, Esq.

The best thanks of the Society were accorded to Mr. Bowman for his valuable present.

The Meeting then adjourned to Thursday the 14th January, 1847'

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 14th January, 1847.

The minutes of the last meeting were read and approved of.

The Rev. P. Anderson, Chaplain, proposed as a Member of the Society, and duly seconded at the last meeting, was ballotted for and unanimously elected.

On the motion of R. W. Crawford, Esq., seconded by J. Bird, Esq.,

intimating that Sir David Pollock, *Chief Justice*, Member of the Royal Asiatic Society of Great Britain, should be invited to become a Member of this Society,—the *Secretary* was instructed to write to Sir David Pollock, and to inform him that he had been admitted a Member by virtue of his belonging to the Home Society.

The following Gentlemen were proposed and duly seconded as members of the Society to be balloted for at its next meeting; Lieut. C. G. Constable, I. N. by H. J. Carter, Esq., seconded by the *Secretary*, and Dr. W. C. Coles, B. M.S. by the *Secretary*, seconded by H. J. Carter, Esq.

On the motion of the *President* the Hon. L. R. Reid, seconded by the *Vice-President* Col. Jervis, it was resolved,—That in testimony of the profound learning, deep and varied acquirements, in History, Philology, and other branches of Oriental Literature, of the late Major General Vans Kennedy, this meeting, from a grateful appreciation of his long and valuable services in connection with General Literature, and the special object for which the Bombay Branch of the Royal Asiatic Society was instituted, do record its admiration of his great and varied talents, with an expression of deep regret for the loss experienced by his death; and that a special meeting be convened on Thursday the 4th February next, for taking into consideration the best method of manifesting the Society's respect for his memory.

The following donations were presented to the Society:

TO THE LIBRARY.

A letter from the Chief Secretary to Government, presenting Vol. III. Part 4 of Wight's *Icones Plantarum Indiae Orientalis*.

A letter from the Secretary to Government, in the General Department, presenting Report No. V. of the Board of Education, for the year 1845.

TO THE MUSEUM.

Specimens of Copper-Ore brought from the Island of *Maseera* on the South-East Coast of Arabia by Assistant Surgeon Carter. Presented by the Government.

ORIGINAL COMMUNICATIONS.

Assistant Surgeon Carter's Report on Copper-Ore from the Island

of *Masseira*; and of Lithographic Limestone from the South-Eastern Coast of Arabia.

An account, by the Rev. Dr. Stevenson, of the Marriage Ceremony of Brahmans, who wish to contract the *third* Marriage, and are anxious to avert the evils and misfortunes denounced against such contracts.

The best thanks of the Society were accorded for the various donations and interesting papers noticed.

The Meeting was adjourned to the special Meeting appointed to be held on the 4th of February, 1847.

At a Special Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library, on Thursday the 4th of February 1847, for the purpose of taking into consideration the best method of manifesting the Society's respect for the memory of the late Major General Vans Kennedy.

The minutes of the last meeting were read and approved of.

A Biographical Memoir of the late General Kennedy was then read by the *Secretary*, after which it was moved by the Hon'ble the *President* L. R. Reid, seconded by the *Vice-President* Col. Jervis, and resolved, —That in reference to a resolution of the Society passed on the 14th of January to call a special meeting on this day, to take into consideration the best method of manifesting its respect for the memory of the late Major-General Vans Kennedy, this Society, in addition to its opinion of his valuable services in connection with *Oriental Literature* &c. already recorded in its proceedings, do open a subscription for the purpose, —1st of erecting a suitable monument over his remains, and 2nd of providing a Gold Medal, to be placed annually at the disposal of the Board of Education, and awarded by it in a manner that may seem most conducive to the promotion of Oriental Literature.

2nd. It was moved by Chief Justice Sir David Pollock, seconded by the *Vice-President* and *Secretary*, J. Bird, Esq.—That the subscription should not be confined to members of the Society alone, but be open to all persons.

3rd. It was moved by the Hon'ble J. P. Willoughby, Esq., seconded by J. Glen, Esq.—That the Biographical Memoir of Major General Vans Kennedy be printed in the Society's Journal, and copies of it distributed to all the learned Societies connected with Oriental Literature

in all parts of the world, with an expression of the Society's deep regret at the demise of one so deservedly celebrated in the *Annals of Oriental Learning*.

4th. It was moved by C. J. Erskine, Esq., Priv. Secy. to the Governor, seconded by A. Malet, Esq., Secy. to Government—That the several Asiatic Societies in Asia, Europe, and America, be specially invited to join in this tribute of respect to the memory of one whose reputation as an Oriental Scholar is so widely extended throughout the civilized world.

Sir David Pollock, seconded by Dr. Buist, then proposed—That the cordial thanks of this Meeting be presented to the *Secretary* of the Society, for his able and satisfactory Memoir of Major General Vans Kennedy. The above propositions were carried unanimously.

The Meeting was then adjourned to Thursday the 11th of February, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library, on Thursday the 11th February, 1847.

The minutes of the last Meeting were read and approved of.

Lieut. C. G. Constable, I. N. and Dr. W. C. Coles, By. M. S. who were duly proposed and seconded as Members of the Society at the former Monthly Meeting, were ballotted for, and unanimously elected.

Capt. Partridge, of the 8th Regiment N. I. proposed as a Member of the Society by Dr. Buist, seconded by the Secretary, to be ballotted for at the next Monthly Meeting.

On the motion of the *Vice-President* Col. Jervis, seconded by the *Vice-President* and *Secretary*, J. Bird, Esq., it was resolved,—That a deputation, consisting of the *President*, *Vice-President*, and *Secretary*, should wait upon the Hon'ble the Governor, George Russell Clerk, to solicit his Honor to become the Society's Patron.

On the motion of R. W. Crawford, Esq., seconded by the *Vice-President* the Rev. J. Stevenson, D.D., it was resolved,—That Sir David Pollock, Chief Justice, be further requested to do the Society the honor of becoming its *Vice-Patron*.

It was then proposed by the *Vice-President*, the Rev. J. Stevenson D.D., seconded by the Rev. G. Pigott, and unanimously resolved,—That in consideration of the many and deep obligations which this Society is

under to Professor Orlebar, both for the assiduous labour and varied talents which he has devoted to the classification of the Museum, in all its branches, as well as for the zeal which he has invariably displayed in furthering its literary and scientific objects, *this Society* do convey to professor Orlebar, through their Secretary, their sincere regret at the cause which has compelled him to finally leave India, with an expression of their high sense and appreciation of the extent and value of his former services as Secretary (already placed on record in the proceedings of the Society), and since as Conservator of the Museum.

On the suggestion of the Rev. G. Pigott, H. J. Carter, Esq., B. M. S. was unanimously nominated by the Society as *Conservator* of the Museum in succession to Professor Orlebar.

The following donations were presented :—

TO THE LIBRARY.

Twelve volumes of the Bible for the Blind, and a copy of Grammar embossed for the purpose of teaching them to read. Presented by H. B. E. Frere, Esq.

No. III. of Jordon's Illustrations of Indian Ornithology. Presented by Framjee Nasserwanjee, Esq.

A copy of the *Sanhita* of the *Sama Veda*, translated into English by the Rev. John Stevenson, D.D. Presented by the Author.

TO THE MUSEUM.

1. A collection of Fossils from Sindh and the valley of the Indus. Presented through Dr. Buist, by Capt. Partridge, of the 18th Regiment N. I.

2. A collection of Geological Specimens from Khatiawar, collected by Capt. H. Aston, 1st Assistant to the Political Agent at Rajcote, with a letter from A Malet, Esq., Political Secretary to Government. Presented by Government.

ORIGINAL COMMUNICATIONS.

Assistant Surgeon Carter's account of the *Frankincense Tree* of *Arabia* with remarks on the misplacement, of the "*Libanophorous* Re-

gion," in Ptolemy's Geography accompanied by a Botanical drawing of the tree producing Frankincense.

The best thanks of the Society were accorded for the donations to the Library and Museum; and the Meeting adjourned to Thursday the 11th of March, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 11th March, 1847.

The minutes of the last Meeting were read and approved of.

Capt. Partridge 18th Regt. N. I., duly proposed and seconded as a Member of the Society at its last Meeting, was ballotted for and un-animously elected.

The following Gentlemen were proposed and duly seconded as members of the Society, to be ballotted for at its next Meeting; Dr. Hy-slop, by Capt. Carless I. N. seconded by James Bird, Esq; Lieut. J. B. Dunsterville, by Col. J. H. Dunsterville, seconded by J. Glen, Esq; and E. Impey, Esq., by Capt. Montriau, I. N., seconded by H. J. Carter, Esq.

Letters were then read from Sir David Pollock, accepting the Office of *Vice-Patron* of the Society, and from Dr. Sperschneider, accompanying a present from Dr. Pruner of Munich.

The following donations were presented to the Society:

TO THE LIBRARY.

1st. Two copies of the "Provisional Report on the Meteorological Observations made at Colabah, Bombay, for the year 1844" by G. Buist, Esq., L.L. D. Presented by the Author.

2nd. A Copy of a paper on the identity of feature between the Ancient Egyptians as figured in the tombs at Thebes and the Fellahs of the present day, by Dr. Pruner. Presented by the Author.

The best thanks of the Society were ordered to be transmitted to Dr. Buist, and to Dr. Pruner for their valuable contributions to the Library.

Respecting the motions, of which notice was given at the last Meeting, for the alteration of Arts. VII and XLI. of the Society's Rules, it was proposed by R. W. Crawford, Esq., seconded by T. M. B. Turner, and carried,—That the following sentence shall be added to Art. VII of the Society's Rules, viz.—

"The Members of the Society resident in Salsette, Caranja, or Angria's Colsbah, are allowed the option of being considered Resident or Non-Resident Members."

The Meeting then adjourned to Thursday the 8th of April, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 8th of April, 1847.

The minutes of the last Meeting were read and approved of.

Dr. Hyslop, Lieut. J. B. Dunsterville, and E. Impey Esq. who were duly proposed and seconded as Members of the Society at its last Meeting, were ballotted for and unanimously elected.

Col. G. Moore, Auditor General was proposed as a member of the Society by the *President*, seconded by W. Escombe, Esq.

The following donations were presented to the Society:

TO THE LIBRARY.

1st. The sixth volume of Thornton's History of British India, *in sheets*. Presented by the Hon'ble the Governor in Council, accompanied by a letter from W. Escombe, Esq., Secretary to Government in the General Department.—2d The Bengal Pharmacopœia, and General Conspectus of Medicinal Plants, by W. B. O'Shaughnessy, M. D. F. R. S. &c. Presented by the Author.—3d A translation from the German, of Dr. E. Alban's, High-pressure Steam-Engine investigated, with notes by W. Pole, Esq., F. R. A. S. Presented by the Translator.

ORIGINAL COMMUNICATIONS.

Geological Observations on the banks of the river Taptee, accompanied by a section taken from a Ford near the village of Dolan, by A. B. Orlebar, A. M. Presented by the Author.

TO THE MUSEUM.

A collection of Geological Specimens from the Ford near the village of Dolan above mentioned. Presented by A. B. Orlebar, A. M.

The best thanks of the Society were ordered to be transmitted to the

several Contributors for their valuable additions to the Library and Museum, and the Meeting was adjourned to the 13th of May, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday, the 13th of May, 1847.

The minutes of the last Meeting were read and approved of.

Col. Moore, Auditor General, duly proposed and seconded as a Member of the Society at the last Meeting, was ballotted for and unanimously elected.

Mr. Wattenbach, was proposed as a Member of the Society by Capt. T. M. B. Turner, seconded by Lieut. Marriott.

Letters were read from Lieut. Col. Melville, Secretary to Government, Lieut. Col. Waddington, Capt. Montrieu, I. N., and the Rev. William Clarkson.

The following presents to the Society were laid before the Meeting :

TO THE LIBRARY.

"Magnetical and Meteorological Observations made in the Observatory at Colabah, Bombay, from April to December 1845." By Professor A. B. Orlebar, M. A. of the Elphinstone Institution. Presented by the Hon'ble the Governor in Council.

Through the Lord Bishop of Bombay,—"Expository Lectures on St. Paul's Epistles to the Colossians," by Daniel, Bishop of Calcutta. From the Author.—"Five Sermons on public occasions," by the Bishop of Calcutta. From the Author.—"Journal of a Visitation Tour through the provinces of Madura and Tinnevely in the Diocese of Madras, to which are added two Charges," by the Right Reverend George Trevor Spencer, Lord Bishop of Madras. From the Author.

Through the Hon'ble L. R. Reid, *President* of the Society, "A Catalogue of Chinese Buddhistical Works," also "Statistics of Government Charitable Dispensaries." Presented by Lieut. Col. W. H. Sykes, F. R. S.—Through the Hon'ble the Governor in Council, from the Hon'ble the Court of Directors. "Facts and suggestions concerning the Economic Geology of India," by Professor D. T. Ansted, F. R. S. Vice-Secretary, Geological Society.—"A Grammar of the Gujarati Language," by the Rev. William Clarkson, of the London Missionary Society. Presented by the Author.

TO THE MUSEUM.

A large collection of Mineralogical Specimens from the Countries of *Khatiawar* and *Cutch*, each labelled with the name of the place from whence it was taken and its distance from some known station. Presented by Lieut. Col. Waddington, C. B.

The best thanks of the Society were voted to the several Contributors for their valuable presents to the Library and the Museum; and the Meeting was adjourned to Thursday the 10th of June, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 10th of June, 1847.

The minutes of last Meeting were read and approved of.

Mr. Wattenbach, duly proposed and seconded as a Member of the Society at its last Meeting, was ballotted for and unanimously elected.

Letters were read from H. M. Elliot, Esq., Secretary to the Government of India with the Governor General, and Henry Cope, Esq., Secretary to the Archæological Society of Delhi.

Presented to the Museum.—Two Specimens of *Scorpio asfer* from Cochin on the Malabar Coast by Capt. Lynch, Indian Navy.

With reference to the letter of H. M. Elliot, Esq., requesting the Society to furnish him with a list of its manuscripts on subjects connected with Indian History,—it was resolved, that one should be made out after the form transmitted and forwarded to his address by the earliest opportunity.

It was also resolved, upon the reading of the letter of Henry Cope, Esq.,—That a complete set of the Society's Transactions be forwarded to his address for the acceptance of the Archæological Society of Delhi, and that the Secretary be requested to intimate the willingness of the Bombay Branch of the Royal Asiatic Society to co-operate with it in any way that will tend to promote its objects.

Adverting to the printed dispatch forwarded by the Hon'ble the Court of Directors to the Government of India for the purpose of obtaining general statistical information of India, copies of which had been transmitted through the Government of Bombay to the Society,—Dr. J. Stevenson *Vice-President*, stated, that at the last meeting, the Hon'ble the Governor had been pleased cursorily to ask what had been done in

this respect, and that actuated by this, he was induced to submit the following resolutions to the Society, viz.—

1st. That as the subject of Statistics has of late particularly occupied the attention of the Royal Asiatic Society at home, this Branch appoint a Statistical Committee for this special object.

2nd. That as a general *Census* of the population of the island of Bombay must form one of the fundamental elements of a Statistical Report, steps be immediately taken in connection with Government, to have an accurate *census* made.

3d. That as considerable expense will attend the taking of this census, the Statistical Committee be directed to put itself in communication with Government and to obtain from that quarter the necessary funds, as unfortunately at the present time the Society's finances will not permit of its doing more than directing and superintending the operations of the Agents employed in the work.

4th. That to ensure the completion as soon as possible of an accurate Statistical Report of the Island, the Statistical Committee be directed to divide itself into sections, as for example, into a Population, a Geological, an Antiquarian, a Mercantile, a Medical, and an Educational Section.

5th. That it be distinctly understood, that if the labours of the Statistical Committee succeed in Bombay, the results will be published in the Society's Journal, and steps taken for extending operations of a similar nature to the other cities and districts of the Presidency through the Non-Resident Members of the Society in their respective Provinces.

The above resolutions having been read, a copy of them was ordered to be posted in the Library, and their discussion deferred until the next Meeting of the Society.

The best thanks of the Society were voted to Captain Lynch I. N. for his valuable present to the Museum, and the Meeting was adjourned to the 8th of the July, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society held in its Library on Thursday the 8th of July, 1847.

The minutes of the last Meeting were read and approved of.

Capt. Ethersey, I. N. was proposed as a member of the Society, by Capt. Carless, seconded by James Bird, Esq; Major D. Davidson, Com-

missary General, was proposed a member of the Society, by Dr. Don, seconded by J. Glen, Esq.

Read a letter, from Professor Lassen of Bonn to the Secretary, intimating that No. IX of the Society's Journal, which was forwarded to him by a private channel, had not been received. In reference to this, it was resolved, that Nos. IX and X. of the Journal should be forwarded to Professor Lassen by the first Mail, to the care of Mr. J. M. Richardson, London.

PRESENTED TO THE LIBRARY.

A Copy of M. A. W. Von Schlegel's *Bhagavad Gita*, edited and corrected under the care of Christian Lassen. Presented by the Editor.

An account of China, comprising the Topography, History, Customs, and Languages,—written in Gujarati, by Cowasjee Sorabjee Cowasjee Patell. Presented by the Author.

Royal Astronomical Society's Proceedings No. 12 of Vol. VII, February 1847. By that Society.

Files of the London Times Newspaper from 1822 to 1846. Presented by the Proprietors of the Bombay Times, through Dr. Buist.

A Copy of the Report on Roads and Tanks for the years 1845 and 1846, by the Superintendent. By the Government.

Dr. Stevenson's propositions for appointing a Statistical Committee, to obtain in connexion with Government a correct *census* of the population of Bombay as the first step to a Special Report of the Island, and afterwards to extend its labours to the several districts of the Presidency, was submitted to the Meeting for discussion, and it was resolved,—That the following gentlemen be appointed a Sub-Committee for ascertaining and reporting to the Society whether it be practicable to carry out the objects contemplated by these propositions,—viz. The Rev. Dr. Stevenson, *President*; Professor John Harkness; Assistant Surgeon H. J. Carter; The Rev. G. Pigott; The Rev. Mr. Mitchell; H. Young, Esq. C. J. Erskine Esq; J. Smith Esq; Capt Curtis; Capt. H. B. Turner, Cursetjee D. Pestonjee, Esq; Juganath Sunkursett, Esq; Aga Mahomed Jaffer, Esq; Manackjee Cursetjee Esq; and the *Secretary* of the Society.

On the proposition of the Rev. G. Pigott, seconded by the Secretary, it was resolved,—That a Sub-Committee consisting of C. J. Erskine, Esq. Professor John Harkness, H. J. Carter, Esq. and the Secretary be ap-

pointed to report on the present state of the Library, and the best means of securing a better preservation of the Standard Works and valuable MSS. belonging to the Society.—It was further resolved on the motion of the *President* that Mr. Pigott's name be added to this Committee.

The Secretary then submitted to the Meeting a valuable and interesting paper on the "Balsam-Trees (*Balsamodendra*) of Sindh," by Assistant Surgeon J. E. Stocks, Vaccinator in Sindh.

The best thanks of the Society were voted to the Author of this communication, and to the several Contributors for their valuable presents to the Library.—The Meeting was then adjourned to Thursday the 12th of August, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday, the 12th of August, 1847.

The minutes of the last meeting were read and approved of.

Capt. Ethersey, I. N. and Major D. Davidson, Commissary General, who were duly proposed and seconded as Members of the Society at its last Meeting, were ballotted for, and unanimously elected.

Read,—The following letter dated Simla, July the 8th, from the Foreign Secretary to the Government of India in attendance on the Governor General.

Simla, July 8th 1847.

Dear Sir,—As a Mission is about to start to the frontier of Chinese Tartary, I shall be glad to learn if there is any question of literary or scientific interest which you would wish its Members to make the subject of their investigation.

A Barometer and a few Magnetical and other Philosophical Instruments accompany the Mission, which will consist of Capt. Cunningham, Dr. T. Thomson, and Lieut. Strachey; and to such careful and intelligent observers may safely be entrusted any enquiry your learned Society may wish them to prosecute.

I remain,

Dear Sir,

To,
*The Secretary to the
 Branch Asiatic Society,
 Bombay.* }

Your most obedient servant,
 (Signed) H. M. Elliot,
Foreign Secy. to Govt. of India.

With reference to this letter, the Secretary submitted a draft of *Desiderata* relative to the *Orography, Hydrography, Ethnology* and *Archæology of Central Asia*. On which it was resolved,—That the draft be adopted, and forwarded without delay to H. M. Elliot, Esq. the Foreign Secretary with the Governor General; and that a copy of his letter be transmitted to the Geographical Society, requesting to be informed if its Members have any questions to propose to the Mission.

Read,—A letter from the Secretary of the Bombay Government, presenting three copies of the Report of the Board of Education for 1846.

The following presents to the Society were laid before the Meeting :

TO THE LIBRARY.

Zeitschrift fur die Kunde des Morgenlandes herausgegeben, von Christian Lassen.—By the Author.

La Rhetorique des Nations Musulmanes d'apres le traite Persan, intitule *Hadayik ul-Balagat*, par M. Garcin de Tassy.—By the Author.

Statistics of Civil and Criminal Justice, and of Government Charitable Dispensaries in India. By the Author Lieut. Col. Sykes, C. B.

Circular Orders of the Sudder Dewanes Adawlut, Vol. I, part 3, and Report of the Board of Education for 1846. By Government.

Prospectus of a general exposure of the Oriental Pantheon, or a Review of the spurious creeds now extant in the East. By the Author, Mr. Muhleisen.

TO THE MUSEUM.

Specimens of Iron-ore from Malwan. By Lieut. C. W. Montrieux I. N.

In reference to the proceedings of last Meeting appointing a Sub-Committee for ascertaining and reporting whether it be practicable to carry out Dr. Stevenson's propositions for obtaining a correct *Census* of the population of Bombay, the Sub-Committee reported to the Meeting of the Society, that having made the necessary preliminary inquiries, and obtained returns of the number of houses in the several divisions of the Island, the Committee are of opinion that, under present circumstances, and in deference to the feelings of the Natives, it is advisable to postpone the *Census*.

For the donations to the Library and Museum the thanks of the Society were unanimously voted; and the Meeting was adjourned to Thursday, the 9th of September, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 9th of September, 1847.

The minutes of the last Meeting were read and approved of.

H. P. Malet, Esq., C. S., proposed as a Member of the Society by A Malet, Esq., seconded by James Bird, Esq., to be ballotted for at its next Meeting.

In reference to the proceedings of last Meeting, that a Copy of the Letter from the Foreign Secretary to the Government of India, be forwarded to the Geographical Society, requesting to be informed if its Members have any questions to propose to the Mission proceeding to the Frontiers of Chinese Tartary,—the Secretary read a reply from that Society, containing suggestions on certain points to which the attention of the Members of the Mission might be usefully directed. This reply was accompanied by a copy of a letter from R. Chambers, Esq. of Edinburgh, who, in reference to a paper on *Ancient Beaches*, read by him at the Oxford Meeting of the British Association, sought for further information and facts similar to those on which his deductions had been made, on the subject of the relative levels of sea and land over large portions of the Globe. Resolved—That both Communications be transmitted to H. M. Elliot, Esq., Secretary with the Governor General, for the purpose of recommending the proposed investigations contained in them to the favorable attention of the Members of the Mission.

There being no other business, the Meeting was adjourned to Thursday the 14th of October, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Thursday the 14th of October, 1847.

The minutes of the last Meeting were read and approved of.

In reference to the proceedings of the Society's Meeting of the 12th August last, directing that the Notes of Inquiry for the Thibet Mission, should be dispatched to the Foreign Secretary to the Government of India in attendance on the Governor General, to be followed by ques-

tions expected from the Geographical Society. Read,—letters of thanks acknowledging their receipt, and stating that they had been forwarded for the use of the members of the Mission.

The following presents to the Society were laid before the Meeting :

TO THE LIBRARY.

Royal Astronomical Society's Proceedings No. 13 of vol. VII, March, 1847.

TO THE MUSEUM.

A white marble Jain Image dug up in the Town of Broach. Presented by A. W. Ravenscroft, Esq.

A Bow and Arrows taken from a Sikh Soldier on the field of Sobroan. Presented by Mr. Blackwell, through Dr. Buist

The following papers presented to the Society were read to the Meeting :

Notice of Dr. Roth's investigations of the Vedas, by the Rev. J. M. Mitchell. Some Remarks on the relation that subsists between the Jain and Brahmanical Systems of Geography, accompanied by two Maps illustrative of Puranic Geography, by the Rev. John Stevenson, D.D.

The Society's best thanks were voted for the several donations, and for the interesting and valuable communications mentioned. The Meeting was then adjourned to Thursday the 11th of November, 1847.

At a Monthly Meeting of the Bombay Branch of the Royal Asiatic Society held in its Library on Thursday the 11th November, 1847.

The minutes of the last Meeting were read and approved of.

H. P. Malet, Esq., C. S. duly proposed and seconded as a Member of the Society, was ballotted for and unanimously elected.

The Hon'ble Sir William Yardley, and J. G. Lumsden, Esq. C. S. were proposed as Members of the Society, by the Hon'ble Sir Erskine Perry, seconded by Col. Jervis *Vice-President*, to be ballotted for at the next Meeting.

The *Secretary* announced his approaching departure for Europe, and

consequent intention of resigning his office at the Anniversary Meeting of the 29th instant.

The following donations to the Library and Museum were laid before the Meeting:

TO THE LIBRARY.

Notizia intorna alla famosa opera istorica di A,bd-er-Rahhman Ibnu Khaldun del Conte Cavaliere Jacobo Graberg Da Hemso.—Ultimi Progressi della Geographia, by ditto.—Observations authentiques sur La Peste du Levant, by ditto. Presented through the Rev. J. Wilson D.D.

TO THE MUSEUM.

Shells from Kattiawar, collected by Capt. H. Aston. Presented by Government.

There being no other business, the Meeting was adjourned to Monday the 29th November, 1847.

At the Anniversary Meeting of the Bombay Branch of the Royal Asiatic Society, held in its Library on Monday the 29th November, 1847.

The minutes of the last Meeting were read and approved of.

Dr. Arbuckle, Bombay Medical Service, was proposed as a member of the Society by Dr. Glen, seconded by Dr. J. Scott.

The Meeting, in conformity with Art. X of the Rules, proceeded to the election of Office-Bearers; when on the proposition of the *President*, seconded by Dr. Stevenson, Sir Erskine Perry was unanimously chosen *Vice-Patron* of the Society; and the following gentlemen were duly elected, for the Managing Committee of the ensuing year, viz.—Professor John Harkness; C. J. Erskine Esq.; S. S. Dickinson, Esq.; Rev. G. Cook; J. Glen, Esq.; J. Don, M. D.; C. Morehead, M. D. Capt. H. B. Lynch I. N.; W. Howard, Esq., and John Scott, Esq.

The following gentlemen were also nominated a Committee for the Museum, viz.—The Rev. G. Pigott; H. J. Carter, Esq.; C. J. Erskine

Esq. ; Lieut. W. F. Marriott ; Lieut. C. W. Montriou I. N. and Dr. W. C. Coles.

Col. G. Moore and A. Spens Esq. C. S. were nominated Auditors for the Society's Annual Accounts.

Dr. Bird, *Vice-President* and *Secretary*, having resigned these Offices, in consequence of his approaching departure for England, the Hon'ble J. P. Willoughby, was unanimously elected *Vice-President*, and H. J. Carter, Esq. *Secretary*.

It was then proposed by the *President*, seconded by Sir Erskine Perry, and resolved,—That the thanks of this Society be given to Dr. Bird, who has now resigned the Office of Secretary, which he has so ably and zealously filled for a period of three years, during which his scientific attainments and great knowledge of Indian Literature have proved highly beneficial to the Institution ; and that the Society further express its regret at the loss of his valuable services in India, resting assured that, although removed from the scene of his labours, he will continue his exertions in the cause of Indian Literature and Science.

A letter from Dr. Buist, embodying certain propositions relative to the *Malcolmson Testimonial*, which had been previously circulated to the Managing Committee, was then submitted to the Meeting.—Resolved that the two first of Dr. Buist's propositions be adopted, viz.—

1st. That the subscription to the *Malcolmson Testimonial* be closed.

2nd. That one half the sum subscribed be devoted to the purchasing of *dies*, and of *ten silver medals* to be struck from them for distribution by the Society, with such devices and inscriptions as may be considered expedient ; and that the details, as to the mode of distribution of the medals, be left for the future consideration of the Committee.

The following donations were presented :

Historical Researches on the Origin and Principles of the *Bauddha* and *Jaina Religions*, by the Author, J. Bird, Esq.

A Fac-simile of a Copper-plate Grant found in the vicinity of Ujein, dated *Sumwat* 1036, A.D. 980. Presented by R. N. C. Hamilton, Esq. Resident at Indore.

The Society's thanks were voted for these donations, and the Meeting was adjourned to Thursday the 9th December, 1847.

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